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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

DR. G. F. STOUT,

WITH THE CO-OPERATION OF DR. E. CAIRD, PROFESSOR WARD, PROFESSOR PRINGLE-PATTERSON, PROFESSOR E. B. TITCHENER, AND OTHER MEMBERS OF AN ADVISORY COMMITTEE.

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PSYCHOLOGY AND PHILOSOPHY.

I.—ON ACTIVE ATTENTION.

By F. H. Bradley.

My object in this paper is naturally not to attempt a complete treatment of its topic. I was led to write it because, in endeavouring to make clear the essence of volition, I found myself embarrassed constantly by the claims of attention. And rightly or wrongly I resolved to remove beforehand this recurring obstacle. I am therefore going to try, so far as I can, first to fix the meaning of active attention in accordance with the ordinary usage of language, and next to deal with a certain number of questions concerning it. That the usage of language to some extent varies I readily admit, but this variation is on the whole, I think, consistent with one central meaning. And in psychology to employ words in a sense opposed to their everyday signification is surely most ill-advised. It is difficult to suppose that the established use has no reason behind it. It is hard to imagine that the reader and the writer could ever wholly free their minds from the influence of association even if that were irrational. And in short, if we cannot employ terms in something like their ordinary sense, it is better to make new ones than to abuse and pervert the old. In the case of attention the abuse has even been carried to such a point that attention has been used to include and cover what every one does and must call a state of inattention. Such an attempt must naturally be short-lived, and we need not trouble ourselves to discuss it. It will repay us better to ask what is the ordinary meaning of our term and what

that meaning implies. In this article I shall take attention always (unless the reader is warned) in the sense of *active* attending.[1] And I do not mean by this merely a state in which in some sense we may be said both to be active and to attend. I mean by it a state in which the attention itself is involved in and follows from an agency on our part.

I will at once proceed to consider the facts in the light of ordinary language. If I am sitting at ease with my mind not dwelling, as we say, on any subject, but wandering aimlessly as I regard some well-known scene, I am what every one would call inattentive generally. If we keep to ordinary language I am not attending here to anything at all. I am occupied by no one object, and even that mode of sensation and feeling which may be said to predominate, is both diffused and feeble. Let us suppose now that a sudden and acute pain shoots through me, or that without warning a gun is fired close by, my state at once is altered. These things at once occupy me—there is no doubt of that—but am I to be said at once therefore to attend to them? If we use attention strictly for *active* attention we are unable to say this unconditionally. My state becomes attention if I go about consciously to get rid of my pain, or again if I begin to wonder what it is; and the same thing holds, of course with a difference, in the case of my hearing the shot. And I naturally and probably under the conditions do so go on to attend. But suppose that at once, recognising the sound as the report of a gun, I throw myself flat on the ground, have we, with merely so much as that, got active attention? I should deny this, and I should deny it again even if my act has proceeded from the idea of escaping danger and has thus been a real volition.[2] For attention in the first place, if we follow the usage of language, must have an object, and in the second place it must involve some dwelling on and maintenance of that object, and so by consequence some delay. If an animal hearing a sound pricks

[1] In this and in some other points I am departing to some extent (it seems not worth while to ask in detail how much) from an article in MIND, No. 43, 1886. I must beg the reader also not to forget that throughout the present article I am assuming that volition consists in the self-realisation of an idea. There is obviously no space in which to discuss this question here. I may refer the reader provisionally to MIND, No. 49, and again to MIND, N.S., No. 40. But I propose to deal with the question in future articles.

[2] For the justification of this see the references given above. The arbitrary limitation of volition to acts of choice is in my view quite indefensible.

its ears and springs at once, and, as we say, by one action, we should not call that attending. But if it pricks its ears and then pauses, we at least perhaps have got attention. There must in brief be an object and its maintenance, and hence we must proceed to inquire about the meaning of these terms.

The mere having of an object or objects is by itself not attention. If I am sitting listlessly, as described above, it cannot be said that I perceive no object. For I certainly have objects before me though I attend to none of them. There may even be some prominent object in my visual field, or there may be some predominant object of hearing, such as the sound of a machine, and yet I need attend actively to neither. And I may be assailed by ideas which are certainly objects, and which maintain themselves as we say even actively, and yet I need not attend to them. I may succeed in not attending to them if and so far as, whenever they recur, I do nothing to maintain them but turn instinctively to something different. Thus to treat attention as the state generally where I have an object would be at least to come into collision with language. I do not attend by the mere perception or thought of an object. I begin to attend when in a further sense I go on to make this my object.

To attend in the proper sense I must by my action support and maintain an object in myself, but we have attention only so far as I maintain it theoretically or at least perceptively. Attention alters something, that is clear, and it is so far practical, but in the sense of altering the existence of the object it is not practical at all. If I turn a handle and so keep up a sound, that by itself is not attention and it need not even in any way imply it. If I turn the screw of a microscope, my act is not in itself attending, and it need not involve attention to the object, though in most cases in fact it does so. If again I move my eyes or my hands and so gain knowledge about an object, that action in the first place need not involve attention. And in any case, so far as I alter the actual thing, that alteration will fall outside of the attention itself. So far as in general my act can be said to create the existence of the object, we have so far not got attention at all. My act is attention only so far as it supports and maintains the ideal presence of the object in my perception. Thus attention is practical but it is not practical except as altering myself, and as so causing the object, unaltered by me, to maintain and to develop itself before me and in me.

In more familiar language we may say that my end in

attention[1] is to maintain an object before me with a view to gain knowledge about it. My aim is thus to develop the object ideally for me as it is in itself, and so to know it. But in saying this we must be on our guard against a possible error, and we must not confine knowledge to a purely intellectual cognition. For clearly I may attend to a beautiful object while I may not be seeking theoretically to understand and comprehend it. I may desire merely in a wide sense to apprehend the object, as when for instance I listen attentively to an air, or with attention observe the development of some pleasure or pain in myself.[2] The process in both cases is in a wide sense theoretical or ideal, because there is an object in it to which the whole process is referred as an adjective. The object preserves for me its identity and unity and develops itself in the process before me as an individual whole, a whole in which the beginning is qualified by the end, and where on the other hand my act does not make the object to be other than it is. Any such process must deserve the title of ideal or theoretical knowledge, if that is taken in a wide sense, and we need not go on to inquire here how it is related to understanding and truth and to a more strictly intellectual mode of cognition.

It may be objected here that in attention more is really done than to develop the object ideally. The object (it may be said) is always made more prominent and is strengthened by the process, and attention therefore alters the object as well as maintains it. To this I reply that I will ask later whether in attention the object is actually strengthened, and

[1] More accurately 'my end so far as attention is concerned'. My main end may be practical and may seek to alter the thing itself, and the ideal development of the thing in me may be a mere means involved in and consequent on this. See more below.

[2] So far as the pleasure or pain coming from an object qualifies as an adjective this object for me—or again is taken as an adjective qualifying my self—I can of course attend to it. Otherwise and if the object merely gives pleasure, I can of course attend to the object but so far not to the pleasure or pain, since that is so far not 'objective'. Even if (to pass to another point) an object remains unaltered and does not change when maintained by attention, we may still properly call this permanence the ideal development of the object. The object preserves its ideal identity through the process of time and the change of context, and qualifies itself by that process. When Dr. Stout (*Manual*, p. 65; ed. 2, p. 71) makes attention aim at "the fuller presentation of an object," I quite agree with him, if, that is, I may interpret "presentation" in the sense of my text. I am not sure however that lower down in the same paragraph Dr. Stout does not teach a divergent doctrine. On the subject of attention I am indeed forced in some respects to dissent very strongly from some doctrines that have been urged by Dr. Stout, but I need not enter on that here.

if so in what sense. But any such strengthening, even if it exists always in fact, is none the less, I would urge, accidental. It is an alteration of the object's psychical existence which falls outside the character of attention itself, and is as external to it as are again its physical effects. The only change in psychical existence which really belongs to the essence of attention is the maintenance in and for perception of the object itself. And the object itself though developed by the process cannot be taken as changed by it. And, if it is altered otherwise, its alteration must be regarded as accidental.

Attention is thus negative of any mere psychical interference with the object and its knowledge in me. And it might be said that attention therefore is directed not at all upon the object but simply on myself. The essence of the process (it may be urged) is not to maintain the ideal development of the object, but merely to keep open my self to its appearance in me. Attention will thus consist in the suppression of any psychical fact which would interfere with the object, and its essence therefore is not positive at all, but merely negative. But any such view, though it perhaps might not take us wrong in practice, is really one-sided and in the end inconsistent with itself. And a true doctrine about the general nature of negation would assure us that any such view is false in principle. You cannot, in short, anywhere or in any way negate except from a positive basis. And you cannot suppress in particular whatever is to interfere with a special positive development, unless you have some idea as to what that development is and keep its requirements in mind. But, if so, the process can be seen at once to be more than barely negative. If, in making attention to consist essentially in a mere alteration of yourself, you do not include in that alteration the end and object for which it is made, you clearly have not defined attention nor have you said what you must really have meant. But otherwise you have qualified the process essentially by the positive development of the object. The real development in an ideal form of the real object itself is in fact the positive end[1] which against hindrance is pursued in attention. Our scruples or our prejudices may not allow us to accept what I will call this evident doctrine. But if so we have preferred to make the general fact of knowledge and truth, I do not say inexplicable, but impossible. The merely

[1] Where not itself the direct end it is included in the end as means and is so the indirect end.

negative character of attention would rest in short upon a superficial error.

Attention implies (we have seen) the ideal presence of an object, but it is not confined, we must remember, to thought in the narrower sense of that term. In what we call pure thought the object is not merely in some way developed without loss of identity, but it must itself seem to develop itself by a movement which, if not intrinsic, is at least ideal. On the other hand attention and knowledge are obviously not limited to this. For their result may come from observation and it may be given by sense-experience, and it may depend upon matter of fact without us or within us. At the same time we saw that an ideal synthesis is involved in attention, and the process may therefore be certainly said in a sense to involve thought. When I attend to a sequence of mere fact external or internal, there must be for me in the process a unity which is not merely given but is ideal. There is a single object which is qualified as a whole and at once by the series, and such a qualification cannot be merely given as a succession of facts. If we use in a wide sense the terms thought and idea, attention always, we must say, in this sense involves thinking, and it involves a knowledge the essential nature of which is to be held together by an idea.

But attention in the sense of *active* attention means more than any kind of mere knowledge. It implies (as we have seen) also a volition on my part, and we may with advantage once more here consider the actual facts. Suppose that I am sitting either listless or absorbed,[1] and that I see perhaps a rabbit move or a bird fly across the scene, do I necessarily give them my attention? If again I passively, as we say, accept the current and course of my own thoughts, must I be said also in every case to be actively attending to them? If we follow the usages of language I think we must deny this.[2] We cannot hold that in every such case my active

[1] These states are very far of course from being the same, and it would be a serious mistake for some purposes to confuse them. I think that they have been so confused with a bad result in connexion with the words *distrait* and *distraction*.

[2] My attitude towards the perceived activity of my own thoughts may in fact be often felt as disagreeably passive and as anything but active. There are statements made on this point which I read with astonishment. And to urge here that a feeling of my passivity must to some extent imply a feeling of my activity would in my opinion be indefensible, at least apart from an inquiry into the meaning of these terms. We want on this whole subject, I will venture to add, less prejudice and dogma and more inquiry, and I believe that in time we shall get it. The appearance of Mr. Loveday's interesting article, since these words were written, has tended to confirm this belief. See MIND, N.S., No. 40.

attention must have been present, when nothing (as we should say) has excited and arrested it. Something necessary to make attention has been wanting, and that something is certainly not here the ideal identity of the object. For this may have been present, and may have been present even in a purely logical form, and yet attention itself may have been absent. And thus the reason why I have not actively attended cannot be that I have not thought. The reason is that I have not done anything myself to support and to maintain the object. There have been from time to time objects each with an identity and an ideal development however short, but I on my part have done nothing at all towards actively developing them. The idea of the object was in short really not 'my idea'. It did not go before and itself, directly or by implication, prescribe and bring about its own existence in me. There was in other words no will, and without my willing I do not actively attend. Even where, as in pure thought, an idea develops itself theoretically, we have not got will unless the foregoing idea of that development has itself been thus the cause of its own existence.[1] And where this feature is absent we assuredly have no active attention. In every observation and in all experiencing, if it is indeed actively attentive, we have, in however vague a form, the idea of my perceiving that which is to happen to the object, or we have at least an end which involves as means the ideal development of the object, an end which

[1] *Cf.* here MIND, No. 49, pp. 25-26. It may indeed be contended that *all* thinking does in the end imply will in this sense. Without pausing to discuss this view I will state in passing that I certainly cannot accept it. Of course, to pass to another point, I should agree that at first in the main the moving ideas in will are practical. The idea of myself, for instance, catching a beast causes me under certain conditions to keep still and to watch the movements of the object. And it can be argued that in the end every theoretical interest is thus ultimately practical. I cannot discuss such a large matter in passing, but I do not think that such a contention in its crude form is defensible. It is one thing to hold that no theoretical or æsthetic interest is in the end barely theoretical or æsthetic. It is quite another thing to propose to subordinate such interests to what is barely practical, without even asking whether a mere practical interest is not itself also in the end incomplete.

Since writing the above I have had the advantage of reading Prof. Royce's interesting book, *The World and the Individual.* I hope that at some future time I may be able to discuss the doctrine there advocated with regard to the internal meaning and purpose contained in all ideas. As I understand this view, I however find myself unable to accept it. I cannot see how in the end and ultimately it is an idea which makes the selection which takes place in knowledge, and I have not succeeded in apprehending clearly the relation of thought to will as it is conceived by Prof. Royce. I hope however to profit by further study of this volume.

is felt in that development to be carrying itself out. And this idea of end operates in determining the process in which itself ceases to be a mere idea and becomes actual fact. Active attention in short everywhere implies volition.[1]

But in what sense (this is now the question) does active attention imply will? We must here on each side be on our guard against error. In the first place attention is not the same thing as will. We have noticed already that in its absence volition may be present, and I shall hereafter return to this point. I shall therefore dismiss it here and ask how attention, itself not being will, implies will in its essence. I will begin by dealing with a mistake of a different kind. Attention certainly does not imply volition in the sense that all attention is willed directly. The attention itself is not always the aim of my will. It may or it may not be itself my end, according to the circumstances of the case, and the facts, as soon as we look at them, seem to put this beyond doubt. I may often of course have an idea of attending to this or that, and so go on to attend to it, but no one could say that apart from this there is no active attention. For, in carrying out some purpose without me or within me, I may be undoubtedly attending, and yet, having felt no tendency to wander mentally from my aim, I may as undoubtedly never have directly willed to attend. In short attention is a state which may itself be willed directly, but which certainly need not be so, and which far more usually is not so willed. Its essence is not to be itself an end and object of volition, and it is enough that it should be implied in an end and object which as a state of mind it subserves.

Wherever an end, external or internal, practical or theoretical,[2] involves in and for its realisation the maintenance and support of an ideal object before me and in me,—that is active attention. If I will to capture an animal, this purpose may imply the keeping of its movements, and perhaps also my own, steadily before me. If I mean to solve a problem, the idea of its solution entails my dwelling theoretically on the means. If I see and desire to go on seeing some show, that idea in carrying itself out involves my abstinence from distracting movements and thoughts, and it involves positively the keeping my eyes and mind open to the continuous perception of the object. In all these cases the attention comes

[1] The doctrine of an attention contrary to will, which is advocated by, for instance, Mr. Shand, in MIND, N.S., 16, p. 452, seems to me quite indefensible, if at least attention is to mean active attention.

[2] These distinctions, the reader should remember, are not the same.

from my will [1] and it is active attention, but you cannot say that the attending itself is itself that end which I willed. But it becomes this end, and it is this end, where the delay and the hindrance to the realisation of my idea is apprehended as in some way consisting in my failing and distraction. The attention itself then goes on to be included explicitly in my idea of the end, and the state of attending is now itself directly willed, and not as before implied incidentally and even conditionally.

Active attention, we may say roughly, is the dwelling ideally on an object so as to do something practical or theoretical to that object or with regard to it. But this dwelling is certainly not always itself included in the idea of my end, it is certainly not always itself the direct aim of my will. If you take a state such as observation and active expectancy,[2] that state will without doubt always include attention, but it will not include in every case the will so to attend. My immediate end here is to get to know more about the object, to realise it ideally, with or without a further end theoretical or practical. In this direct end is implied the adoption of the necessary means, in other words here my keeping the object before my mind and my assisting it to develop itself in me. But this assistance of mine is not in every case itself specifically willed. It is not itself directly willed except where

[1] The reader will not forget that for me there is no will at all without an idea, and that volition is essentially the self-realisation of an idea. Dr. Stout (*Manual*, pp. 248-251; ed. 2, p. 258) holds that we may have attention and even search without an idea of the object. I cannot agree that in any such case we have a right to speak of active attention, and if I agreed to this I can see then no reason why I should not descend even lower, and speak of attention being present even there where there is perhaps not even so much as perception. The pathological case, as Dr. Stout reports it, does not seem to me to show that the subject had in each case no idea (in fact I think it shows the contrary), but merely that his ideas were exceedingly vague and exceedingly restricted. But, if the opposite could in some way be shown, I should without the least hesitation refuse to admit the presence of either mental search or active attention in such a case.

[2] The assertion that all expectation implies will is in my opinion indefensible. What we call active expectancy and a sustained attitude towards the future does certainly imply will, but expectation is used also, I should have said, with a wider meaning in which no will is implied. Expectation certainly need not always involve what we call observation. A mere suggestion as to the future or an anticipation of it on which I do not dwell, and again even a judgment about the future need, I should say, none of them imply attention or will, and they clearly need not involve desire. Expectation, as containing essentially attention and a will to know, is used, in short, in a sense which is artificially narrowed (*cf.* MIND, No. 49, p. 16). I have already mentioned that I cannot accept the doctrine that all interest is practical.

its absence, actual or possible, has been brought before me. The delay or the failure in the realisation of my object is one thing, and my failure in respect of this is another thing, and it is only the second of these which calls forth a direct will to attend.

Active attention may therefore be defined as such a theoretic or perceptive occupancy of myself by an object as is due to and involved in a volition of some sort directed on that object. The ideal development of the object in me is thus, directly or indirectly, the realisation of my will. And whatever psychical support, positive or negative, is required to maintain this development, issues therefore from my will and must be regarded as my work. Wherever on the other hand an ideal content is so interesting in itself as of itself to produce, apart from my will, whatever is required for its own psychical maintenance, that maintenance is not active attention and cannot be taken as the work of myself.

The meaning so far given to active attention will, I think, be found in the main to agree with the ordinary employment of that term. The various divergent senses, in which we commonly make use of attention, will be seen by us to waver naturally and pass one into the other. And that sense, which in the above account I have tried to fix and define, hits, I venture to think, the point amid these variations which may be called their centre. In our ordinary use the chief divergence is between active and passive attention. The latter seems equivalent to what may be called the mere occupancy of myself.[1] A sensation or a feeling or an idea, if these are

[1] It would be a reasonable proposal to limit this wide use of passive attention, and to apply the term only in cases where I am occupied by an object before me. The fact that my organs and my mind are given a certain 'direction' towards an object, may perhaps be taken as implied in the ordinary use of attention. To such a limitation I should not be averse, so long as two points were kept clear. (i.) In the first place the aspect of exclusive domination is (we must remember) quite essential, and this aspect is not contained in the mere fact that my mind possesses an object. We have seen that, where I have a variety of objects before me, I may be inattentive to some of them or even to all. (ii.) In the second place, even where an object occupies me and so I passively attend to it, if its control over my mind comes from the activity of the object itself, this control is not my work and there is no active attending. Now these two essential features, first of domination and next of maintenance by my activity, will tend, I fear, to be obscured by the proposed limitation of passive attention. For always in having an object before me my mind naturally may be said in a sense to be 'active,' and, if so, this mental state naturally will tend to be called active attention. And it will be called so where my mental state could not be fairly taken as my own work, and it will be called so even where we have not the domination

sufficiently strong or sufficiently influential, may be said to dominate me or engross me, or also perhaps again to move me, in an eminent sense. Attention here, it will be seen, may be intelligent but is not so essentially, and if, following this line, we make active attention to be the willed procurement of such an occupancy or domination, the element of intelligence, of ideal dwelling on the object, if present is once more not essential. The article which some years ago I published (MIND, No. 43) did in fact follow this line, and in the sense which it gave to active attention it to some extent conflicts with the account I now offer. And this is a point which perhaps we must be content to decide arbitrarily, in whichever way we decide it. But with regard to attention which is not active on the part of myself but consists in my domination or passive occupancy, the account which I have given above does not exclude such a meaning. Whether in psychology we are to use attention in this sense I do not attempt to decide, but I am sure that it is a sense the existence of which we cannot afford to forget. Where an idea extrudes others and dominates me simply and so produces volition, my attention to the idea evidently will so far be but passive. Where after the advent of a sensation or a perception I act at once and without delay, my attention, so far as it exists, once more is passive. The action itself certainly is not an attending, and the action may even be not psychical and only physical. And we must decide in the same way where a sensation is, as we say, 'apperceived,' and is modified by the activity of what we call a 'disposition'. This will not be my active attending unless I can be said as a result of my will to maintain and to dwell ideally on the object. Activity is present, if you like, and this activity again may be said, if you please, to cause in a certain sense attention to the object. But the attention once again, so far as it exists, will itself be but passive, and the activity, to whatever subject I refer it, will most certainly not be active attention employed by my self.[1] For we do not have that until, as we have seen, we have an idea and a volition.

I will now go on to show briefly how the main senses of attention pass naturally one into the other. If we begin

which is involved in passive attention. Hence, in the presence of this misleading tendency with all the confusion which it entails, I think it safer to take the line which is followed in the text. But the limitation, I agree, would keep us nearer to everyday usage.

[1] I shall touch on this subject again lower down, and in the meantime may remind the reader that the activity here and the subject of it is taken by some psychologists to be simply physical.

with attention in the low and perhaps improper sense of psychical domination or occupancy, such a psychical fact must normally tend to become the object of a perception. And a prominent object of perception, even apart from its practical side, must tend naturally to become a thing to which I actively attend. It will probably, if it lasts, be dealt with in some volition theoretically or practically, and this will tend to imply a dwelling on it more or less directly, and an ideal maintenance and support thus proceeding from myself. For the suppression of conditions in myself hostile to the undisturbed presence of the idea seems involved in its continuance and development before me. And this suppression, we have supposed, will arise, not directly from the object itself, but at least in part from that object as a means to and as included in my end.[1] And with this we clearly have arrived at an active attending. And such attention tends to pass further into the attention which is itself the end and object of will. For so far as there is mental wandering the original purpose will tend to be frustrated, and hence the remedy of that frustration, if the purpose holds, will normally be suggested as a fresh idea. And this idea realising itself is itself in general my will to be attentive actively. I do not think that any account of attention, which differs materially from the above, will be able in the same way fairly to do justice to the facts alike of language and of experience.

Active attention is not the same as thought or will, but in its essence it implies each, and it therefore possesses the characteristics of both while identical with neither. I will proceed at the cost of some repetition to enlarge on this thesis, using thought as before in a wide sense so as to cover the entire theoretical attitude.

(i.) In the first place attention is not wholly identical with thought, and thought can certainly exist without active attention. Even if thought implied attention, the attention itself would be but one aspect of the thought, for the attention itself does not qualify the object. But it is not even

[1] It may be asked whether that ideal development of the object which is a means to my end may not in itself become so interesting as of itself to engross me, and whether in this case we any longer have active attention. Any difficulty in answering this question arises, I think, from the difficulty of making in fact the abstraction required. So long as and so far as we take the end to remain dominant and controlling, we must speak, I should say, of an active attention. For, so long and so far, the repression of competing psychical factors is taken as coming, not from the mere idea itself, but from the end willed by me.

true that all thought implies active attention, and it cannot be said that in all thought I actively maintain and support an ideal object. There must certainly in thought be on the positive side an ideal continuity, and on the negative side an absence of psychical interference. But no one would say naturally that in all cases I actively procure this result. We might perhaps as naturally say that in all thought I am passive, while the object itself actively produces the result in me. But neither of these extremes would really be tenable. (*a*) Let us consider first what happens when, as we say, my thought is concentrated and I am fully absorbed in it. Let us take the case of an intense intellectual or æsthetic activity, where the object seems to develop itself before us without help or hindrance. If you insist that here in all cases and throughout I myself am actively attending, I would ask you what it is that I myself am doing with or to the object or myself. And for myself I cannot find that I at least am *always* actively attending. For so far as the ideal development of the object is interesting in itself, the psychical control over my mind is naturally taken to proceed not from myself but direct from the object. (*b*) Let us examine next my state where, as we should say, I am inattentive altogether. Can we assert that in such a case there actually is no thought at all? My mind is wandering doubtless, and there is no one single object which emerges from the general background and develops itself ideally throughout. But are there no passing objects here that develop themselves ideally before me even for a moment and to the very slightest extent? I cannot myself see how in the face of facts such a view could be sustained. (*c*) Where I am not (as we say) generally inattentive, but am occupied by, and am perhaps also actively attending to, one continuous central train of thought, is there outside of this central train not any recognition and judgment? It would be, I think, difficult to deny wholly the existence of such thoughts, however passing and sporadic, and yet, if we cannot, then apart from or outside of our active attending we shall once more probably have found thought, and shall certainly have found at least the fact of 'objective reference'. We may in any case rest our conclusion on the two previous instances, if about the third we are inclined to doubt. Thought may certainly exist apart from active attention, and attention itself is not wholly identical with thought.

(ii.) Active attention (to pass to another point) is not the same as will, though it involves will in its essence. Will can undoubtedly exist in the absence of active attention, and, even

where that is present, will must still in a sense be superior to it and prior. (*a*) Let us first take the case where, without pausing to think about my suggested action, I act at once. We are to suppose that there is present here an idea of what I am about to do, for without such an idea we should certainly not have volition. But in the case supposed the idea realises itself forthwith without any further ideal development, and in such a case we have in the proper sense no attention. I certainly perceive an object, and that object may, as we say, violently strike me, and I may also be dominated and overpowered by the idea of my action on the object, but with all this, if I go on to act at once, I do not actively attend. My attention will under certain conditions, it is true, follow as a consequence, but it has so far had no time in which to develop itself, and so far in fact it is not there. (*b*) We may do well in this connexion to consider also the case where my attention is willed actually and as such. There is here a special will, a will, that is, to produce the state of attending. We have therefore present here the idea of myself attending, and this idea carrying itself out into existence is the special will to attend. But if any one maintained that this idea also itself must be actively attended to, he would be surely opposing himself to the evidence of fact. And, if we keep to the facts, we must admit here the presence of a will which is itself certainly not attention but which on the contrary conditions it. The idea of myself attending dominates me, and the idea so produces the existence of my attention, but clearly I do not at the same time actively attend to my idea. That would require a further idea and a further volition, and we should thus be driven to enter on a fruitless regress. We assuredly never should arrive at an idea at once the ultimate condition of my attention and itself ultimately attended to. But probably no one could hold with us that will is implied in active attention and that an idea is essential to will, and at the same time maintain that this idea itself must be an object of attention.[1] If then our premises are right we may conclude that attention and will differ, and that attention implies, while on the other hand it is not implied in volition. We must insist that without attention there may be will, and that where both are present both are not the same or even co-ordinate. Attention is an ap-

[1] If we believe that there is will and active attention without the presence of an idea, of course in that case the argument of the text does not apply; but I have already dismissed this doctrine. What in such a case the fact of, a will to will, really would mean I do not know, and it would be unprofitable for me to consider.

plied will, and it is therefore in this sense something clearly subordinate and lower.

(iii.) We have seen that attention[1] is not the same as either thought or volition. But on the other hand, since it implies these, it will possess the characteristics of both, and I will go on to enlarge for a space on this head. I shall not attempt to exhaust the subject or in discussing it to follow a strict order, but I will offer some remarks which perhaps may be useful.

(*a*) Attention, we have seen, involves thought, if thought is taken in the general sense of the perceptive or theoretical attitude. Attention has always in other words an object qualified in me by ideal adjectives. And this attitude implies on my part a certain passivity. In attention I must be passive first in the sense that I do not go about to alter the object but receive and accept it. And there is again beside this a further sense in which in attending I am passive. My self must more or less be occupied and affected by the object, and I (we may say) must suffer this object as mine and in me. And more or less clearly I must also feel and be aware of this sufferance. In fact a feeling of this sort, which is present always in active attention, may go some way towards obscuring there my sense of being active. I shall very soon return to this and shall point out something which this felt passivity implies, but for the moment I will pass on to notice another mark of attention.

(*b*) Attention, being will, must of course give us, beside the sense of passivity, a sense also of being active, though this sense again can under certain conditions be weakened. And, as will, attention involves naturally the more or less clear awareness of my active relation to the object of my attention. The practical attitude implies always within what is experienced the opposition of my self to the not-self, and I must also be aware of these terms and of their relation. The same thing holds with a difference in the theoretical attitude, for there the relation and its terms must again be experienced though not quite in the same sense.[2] I cannot properly attend without an experience of my self as passively affected and again as actively affecting. This awareness may be present of course in very various degrees of distinctness. It may be vague feeling or again it may be clear self-consciousness,[3] but it never fails to be present.

[1] The reader, I hope, remembers that apart from a special warning he is to take attention as *active* attention.

[2] I cannot enter on this matter here.

[3] I think that Mr. Shand is more or less exaggerating when (in MIND, N.S., 12, p. 459) he speaks of "a clear awareness" in all attention. The

I will before proceeding lay stress on a point which I have mentioned already. We have, I presume, undoubtedly a sense and an experience of being active and passive, and I mean by this that we have an actual awareness of our selves in both these characters. But unless both self and not-self and their relation are actually experienced—and I mean by this are present within the experienced as parts or aspects or features of its content—I cannot see how a sense of activity or passivity, in attention or in anything else, is to be either explicable or possible. To be aware of activity and passivity without being aware of that which is active or passive, and without this also entering itself into the content of the experienced, is to my mind in the end a thing quite without meaning.[1] Others perhaps may understand how this is possible or at least may know that it happens, but in this understanding or knowledge they fail to carry me with them. And in their dealing, so far as they can be said to deal, with this fact of experienced activity, too many psychologists excite in me an astonishment which does not end in admiration. There is doubtless here, as we are told, a familiar distinction. There is the activity of a thing which is aware that it is active, and there is again the activity of a thing which has no such feeling and experience. We all in this latter sense should speak of the activity of a volcano or of a pill, and in this latter sense we may also in psychology make use of the term 'active'. And I might claim, even myself, without any very prolonged struggle to have possessed myself of this distinction. But having perhaps risen so far there remains a point at which I am still left behind. I fail to perceive how this distinction, even when we have attained to it, can either rid us of the fact of experienced activity or can entitle us to treat such a fact with neglect. I still do not comprehend how the knowledge on our part of this distinction—I do not even see how even the ignorance of it on the part of others—can excuse us when we make apparently no attempt to find out what experienced activity contains. Such neglect still appears to me to be in short inexcusable, even though apparently its consequences with a little good will may conduct us to Theism.

In attention then I am practically related to an object, but this practical relation (I would once more repeat) is of a limited kind. Attention, being will, must involve the altera-

awareness certainly always is present, but in what sense and to what degree can it be always called "clear"?

[1] Compare here the remarks in MIND, N.S., No. 40.

tion of existence, but on the other side, as attention, it must not alter its object. The object, we have seen, is not changed by me but develops and reveals itself within me. What then is that existence of the object which really is changed by attention? It is, we answer, the psychical existence which belongs to the ideal development of the object. In all perceptive knowledge there are these two sides which are indissolubly united. And in active attention we have on one side the willed self-revelation of the reality in and for me, and on the other side the psychical existence and the alteration of that existence without which the object cannot appear.[1] In attention you cannot, as we have seen, leave out either of these factors. Attention does not merely consist in the alteration of my psychical existence, and again it cannot even by an abstraction be regarded merely as the ideal movement of the object.

It is for this latter reason that we are not said to attend to anything except what is 'presented'. Mr. Shand (MIND, N.S., 12, p. 467) has noticed this usage, which appears to be well marked, but he has not, I think, pointed out the principle and the reason which underlies it. But the reason is that, being will, attention, like all will,[2] must be directed on immediate existence. We cannot, as Mr. Shand remarks, properly attend to another man's thoughts or to what is happening at the antipodes. And yet obviously I can attend to an idea, say the idea of attention. I can attend to it so far as it is taken as an idea existing now in and for me, and is therefore in this sense 'presented'. But if on the other hand you abstract from this side of the idea, I can attend to it no longer. And in speaking of another man's thoughts or of an event at the antipodes, you are naturally

[1] I may perhaps once more be permitted to remind the reader of a vital point. That alteration of my psychical existence which is involved in the maintenance of the ideal development, must not, where we have active attention, come direct from the object itself. For, wherever this happens, it is the object which is taken to be active and not I myself, and naturally with this we can speak no longer of my actively attending. In active attention the ideal development issues from and is implied in my will, and its maintenance also is thus taken to be willed and to proceed from myself.

[2] Mr. Shand would, I understand, not admit this. He adduces (MIND, N.S., No. 16, p. 463) the fact of intention and resolve as a proof that will is not always an action on immediate existence. But except so far as intention and resolve are or imply such an action, I cannot agree that they are volition, and I think that when they are defined so as to exclude this aspect no one would call them will, or would call them anything beyond *mere* intention and *mere* resolve. I have touched on this subject in my *Appearance*, etc., p. 463, and I shall have to recur to it in a future article.

taken for the purpose in hand to abstract from the existence of these things in my knowledge. Hence you cannot attend to them, since it is of the essence of attention to imply this aspect of psychical existence and its alteration. Whether we can will an event outside of and quite apart from our psychical existence, as we certainly can desire it (MIND, 49, p. 21), I need not here discuss. But my willed attention to such an event is, as we have just explained, self-contradictory.

(*c*) I will now briefly indicate another feature which belongs to attention in its character of will. Attention may itself vary in strength, while its object either does not vary at all or becomes indifferently more or less.[1] In the first place I may be occupied and dominated more or less by an object, while that object, taken in itself, remains the same. The object may in a certain character and on a certain scale remain of the same degree, while the range and extent to which my self is involved and disturbed may change indefinitely. But that occupation and disturbance is of course not the same thing as my active attending. My attention will in the proper sense be strong or weak, exactly in the way in which we speak of volition possessing these characters. The strength of a volition is a topic to which in another article I hope to return, but it consists, we may say briefly, in the strength of the idea with which the self is identified and the amount of tension and struggle set up between this idea and existence. The extent up to which the whole self is involved in this idea and is excited by this conflict and is identified with one side of it, gives, I should say, the degree of volition. With this of course is connected the felt amount of pleasure and pain. On the other hand the experienced strain on an organ, unless so far as it is included in the above, does not count towards fixing the degree of the tension. And my passive occupancy by the object once again is not a factor, except so far as it subserves and increases the struggle. I do not think that I can with advantage here enlarge on this subject.

We have perceived the essential nature of active attention, and have surveyed its main features from the side alike of volition and of thought. I have now to deal with some other problems, and in particular will discuss the meaning of the phrase "object of attention". But first I will glance at a question about attention's effects. Are we to

[1] On the excessive ambiguity of a psychical 'more and less' see MIND, N.S., No. 13.

say that it does or that it does not intensify its object? I could not here enter at length into this controversy, even if I were qualified to do so, but I will venture in passing to offer some remarks. Very serious ambiguity attaches not only to "psychical intensity," but also, as we shall presently see, to attention's "object".[1] And without a previous inquiry into the meaning of these terms any discussion of the question, it seems to me, must in part lead to nothing. I should be inclined, if I might venture an opinion, to agree that attention does not *essentially* raise the strength of the object to which I attend, if and so long as this object is considered with reference to its own scale. If, that is, I am comparing one visual object with others, or even generally one psychical object with others, it is not of the essence of attention to raise in the scale one of these objects against another, so long as the scale enters into the whole object to which I really am attending. In other words so far as you attend to a whole field of comparison, your attention does not essentially strengthen one part of this connected whole as against other parts. And, if this conclusion seems trivial, I can only reply by asking that it may at least not be forgotten. On the other hand I should agree that in general the effect of attention is to strengthen and to make clear,[2] and hence it may in fact incidentally falsify for the purpose of comparison some part of the object. I will not attempt further to enter on this matter, but before proceeding will offer a necessary remark. Attention is not something abstract and general, but is always individual and special. It is, we have seen, in effect a will to develop perceptively an object in me. And with regard to the nature of objects and their ways of development the greatest diversity prevails. And hence the strength

[1] When Mr. Shand (MIND, N.S., No. 16, p. 464) says that, though attention does not arrest a disappearing sensation, will on its side may do so, I find the statement extremely ambiguous. If the will is simply to observe what happens within a certain field, the attention does not alter, or at least it ought not to alter, any one element in that complex. But on the other hand if the will is directed to an end which in itself involves a continued attention to some idea that naturally wavers—surely here the attention both can and often does arrest. From my point of view there would of course be no meaning in saying here that will can do that which attention cannot do. And so far as Mr. Shand understands by will an action that takes place without any idea of it, I radically dissent from any view of this kind. Mr. Shand's very interesting article is pervaded throughout by that ambiguity as to the nature of the "object" which I am shortly to discuss. With regard to attention strengthening and not strengthening, the reader will find some instructive hesitation in Wundt, *Phys. Psych.*, chap. xv.

[2] I cannot discuss here the meaning of 'clearness'.

and clearness which are essential to attention are not always one thing. They are in each case prescribed in amount and character by the particular matter and purpose. Whatever is enough to meet this particular demand will be sufficient, however little there may be of it, and only so much as this is really essential to attention. And a further end and purpose for which the attention exists, we must remember, is not the attention itself.

I will now proceed to an inquiry into the meaning of attention's 'object'. We can attend, as will presently be shown, to but one thing at a time. Except under certain abnormal conditions we may say that attention never really is divided, and before explaining this I will very briefly state why the fact must be so. There would be much more to say here if I had space at command, and I must content myself with giving what seems the main reason while ignoring other aspects of the matter. Attention is single, we may say in a word, because will is single. And will is single not in the least because it is a faculty—there is too much of this kind of 'explanation' still on hand—but, we may say, because, if it were not single, it would have perished with its owners. Without the habit, and so in the end the principle, of doing and attending to one thing at a time, no creature could have maintained its existence and its race. This, I would repeat, is not offered as being by itself the whole reason, but it seems enough to show why attention must normally be single. And with this I will pass on to inquire further about the 'object' of attention.

The object of attention, it will be said, is in fact very far from being single. And, it will be added, the object is so far from being one and not many, that authorities have differed and have even experimented about the extent of its plurality. And if the object really has all the time been one, this seems not possible. But it is more than possible, I reply, if the term 'object' is highly ambiguous, and if some psychologists have taken no account of its ambiguity. And I will forthwith state the main conclusions to which we shall be led. (1) There is in attention never more than one object, the several 'objects' being diverse aspects of or features within this. (2) Within the one object the unity is of very different kinds. (3) The nominal object and the real object may be very far from being the same, and the latter may contain within itself the former as a feature which is subordinated and even negated.

(1) The first of these heads I may pass over rapidly, since I can refer the reader here to the works of Prof. James and

Dr. Stout.[1] Apart from oscillation, and again apart from abnormal states, to attend to a plurality is always to attend to it as one object, and it is not possible to have really several objects of attention at once. The idea that we can do this comes from a want of insight into certain truths about the object, and I will at once, under (2) and (3), proceed to set these out. I would add that these truths have a wide and important bearing, and that any neglect of them can hardly fail to result in error.

(2 and 3) Attention, we all know, may in various degrees be diffused or be concentrated, but we may fail to perceive that this concentration and diffusion itself falls within the object and qualifies that. The extreme of diffused attention would be, I presume, to observe impartially the whole detail of a complex scene. Its aim would be to observe at large everything which happens in and to this general object, to notice in other words any and every kind of change which takes place before my mind. But even in this supposed extreme we should have the unity of my world, as perceived here and now, and we should have the idea of my noticing whatever may happen in this field; and thus every diversity would be comprehended in and would be subordinate to the unity of this general object. The plurality even here would be the adjective of one thing, but the various features of this object would be of precisely the same rank. They are thus taken as simply co-ordinate, and they are coupled, we may say, by a mere 'and'. We are to attend to an object the several contents of which are A *and* B *and* C, where A, B, and C are equal and all stand on exactly the same footing. A case so extreme, I at once hasten to add, cannot actually exist. If one is to observe really and in fact, one cannot observe really at large, but in order to act one must act, as we say, in a certain interest. But this means that our attention is never equally diffused, and that more or less we are compelled to select and to limit. An animal, that searches when hungry, will search not for anything and everything, but always for something more or less special while neglecting the rest; and the animal must thus always select more or less from the totality of what in general it perceives,

[1] Prof. James, *Psych.*, i., 405, ii., 569, teaches the right doctrine that there can be but one object. I do not know if it is quite consistent with this when, p. 409, he speaks of a plurality of "entirely disconnected" systems of conceptions. Prof. James's use of the word "object" is however (i., 275 foll.) to the very last degree loose. As to oneness of attention Dr. Stout teaches the right view throughout, *Anal. Psych.*, i., 194, 211-212, 260.

and even from the limited totality of that which it sees or smells. The extreme of diffusion will therefore not be present actually and in fact, since with regard to the whole object some neglect and some selection is necessary.

There will in the first place be features of our scene, or in other words of the total object before us, to which we give really and in fact no attention at all. Our object is thus so far divided into two fields, one of inattention, we may say, and the other of attention. And passing by the first let us look at the second, the field and object of attention. Will all the details of that object be without exception attended to equally? Is none relatively neglected while another is in comparison more prominent? Is everything within attention's object still simply co-ordinate and coupled still by a mere 'and,' the one feature being no more important and attended to no more than is the other? If this is ever so, it assuredly is not so always, and, where it is not so, we have even within the chosen field at least some subordination. We find in short no longer a mere 'and'. It is not a case of attending simply to A *and* to B, but of attending to A while not omitting to notice B. And B has with this become lowered to the rank of a condition or circumstance. It is a mere adjective, a more or less subordinate detail in the object, and subordination once begun can be carried to a great length. We may find in short that in the end what we call attention's 'object' may be very different from the true object and aim of our attention. That true aim, that real object, may be even the exclusion or the destruction of the nominal object of attention.

We have in attention (*a*) that part of the whole object to which we do not at all attend. This must be distinguished on one side from all of the moment's feeling which is not even an object, and on the other side from that part of our whole object to which we attend. We have next (*b*) this real object of attention with all its internal detail. And we have last (*c*) the nominal object. The nominal object is that part of the detail, or that aspect of the whole process, which for some cause we select and call the object of attention. And there is a tendency here to confuse, and to put this nominal object, this mere fragment preferred mainly for the sake of convenience, in the place of attention's real and entire object. And from this origin rises a whole train of more or less disastrous mistakes.[1] I will proceed to explain and to enlarge on this statement.

[1] The metaphor of the visual field and focus which in Wundt and his followers appears as a doctrine, has, I venture to think, in its results

The 'object of attention,' far removed from being a term clear and precise, is, as we have seen, a phrase full of ambiguity. But in too much psychology, as in common life, this phrase is used with no regard for its uncertain meaning. The 'object' of attention is in this respect like the 'subject' of a judgment. In a judgment the nominal subject may be something very different from that about which the assertion really is made, and the logician who fails to see this and to remember it will not avoid error. I will point out at some length this ambiguous character of attention's object. If we take such an instance as the pursuit of a prey by a man or a beast, the real object of attention is not the mere animal pursued but the whole pursuit of that animal. And hence every detail in the scene which in any way bears on this pursuit, whether as contributing to it or as hindering it, is or may be included within the real object attended to. Or let us take the instance where a woman's object in going to some party is in fact to promote the success of her daughter. We might say here naturally that, apart from oscillation and failure, her daughter was throughout the time the real object of her attention. But this way of speaking, if convenient, is not correct. Her true 'real object' is the observing, the doing and the preventing this and that thing with regard to her daughter, and, we must add, in a certain interest. And hence it is hard to say what detail in the scene may as a condition or circumstance fail to be included in the object which she pursues—to be attended to and to be contained in her attention's real object. And it is from this point of view that we must understand also the *diversion* of attention, for diversion once more is an ambiguous phrase. When we say that something occurs to attract the mother's attention to something other than her daughter, our meaning is doubtful. We may mean first that, for a longer or shorter period or periods of time, she does not think at all about her daughter or in any way notice her. And, if so, during those periods her attention to her daughter has ceased, except in an improper sense to be noticed below. But on the other hand our meaning when we speak of diversion may be widely different. For the new pursuit and the old one may be co-ordinated in various ways into one whole object. And in this case the diversion of my attention from A will not imply that I cease to attend to A *because* I now attend to B. For

been decidedly mischievous. The metaphor appears in Lotze's *Med. Psych.*, p. 505, and I should presume that Wundt owes the doctrine to Fortlage's *Psychologie*, but he himself is, I suppose, responsible for its prevalence so far as it has prevailed.

I may attend at once to both B and A as co-existing adjectives in one pursuit or scene, or I may subordinate B to A in various ways as a more or less accidental detail, circumstance or condition. The question is here not of 'Yes or No' and of 'Either one or the other'; the question is really about both, and it concerns the degree in which each is present, and again the relative position in which the one stands to the other. The diversion of attention in short takes place here within the attention itself. And hence the division and the diversion of attention are phrases the meaning of which can never anywhere be assumed as known. The meaning will vary in different cases and it will vary perhaps vitally, and it must be investigated for each purpose in hand before conclusions are drawn. And I doubt whether even with the regenerate man of the psychological laboratory this necessary investigation has always taken place. The object of attention, even where our attention is concentrated, is not that aspect of it which for convenience we may abstract and may entitle the object. The real object is on the contrary always a process with this 'object'. It is a more or less systematic whole of action and scene in which the nominal object may be more or less reduced to a detail or condition. That which, for example, Mr. Shand has called the "set of the interest" (MIND, N. S., 12, 454) is really an integral part of the attention's object, and this may be true again of the whole present scene with its background and environment. When I attend to the decay and to the disappearance of a sensation, this mere sensation is not the real object to which I attend. And the fact that I observe the cessation surely proves that any such view is erroneous. The object which I really observe is the sensation in its relation perhaps to a certain special system or scale, and at least in its more general connexion with a wider order and scene. And if we forget this then, as we saw above with regard to the question of intensity, our inquiry may be ambiguous and our conclusions may be vitiated beforehand. In short between the real and the nominal object of attention the divergence may be vital. Our real object (as we saw) may even consist in the negation of what we call our object. I may thus be said to attend to a thought which persecutes me, while I really attend to the extruding of this thought from my mind. My object here is the process of extrusion together with, all that this process, implies. But I, taking into view the thing on which I am to act, for convenience call this my object, and I thus am led into error both in theory and practice. My real object, the process of extruding A, is a negation, which like all negation,

involves a positive basis, and A itself is a detail which has no right to appear except as a condition thus positively negated. And if this essential subordination is for a moment wanting, and if A for one moment is set free, my object and my attention have at once been changed surreptitiously and radically. There are probably few of us who in practice have no acquaintance with this error. We have resolved to attend to the not thinking of something which tempts us. Our resolve here, if genuine, and our true object is to drive out this idea when it occurs, and to do this by keeping our minds fixed on that which will extrude it. And the Devil, when he knows his business, induces us by some pretext to keep the temptation before us. He suggests that it is even our duty always to bear this temptation in mind, of course always qualified by the idea that it is a thing which we reject. And thus the idea naturally, by being held before us, tends to free itself at least in part from its mere subordinate phase, and so in the end acts positively and independently. And our object and our attention have in this way been essentially transformed. We may note again the same natural transformation in the case of repentance. The repentance, we may say, that allows itself ever to think of the past deserves to be suspected. And repentance, we might even add, is a luxury permitted only to those who are morally rich.

The bearing of this whole question is so wide and its importance is so great[1] that I will ask the reader to delay and to consider carefully a further instance. And I will take this instance from Mr. Shand's article in MIND, N.S., 12, p. 457. We can, of course, attend to a pleasure or a pain and make it our 'object'. But the effect of our attention upon this object may vary indefinitely and may go to strengthen it or again to expel or to weaken it. And hence, if in each case we assume that our object is the same, we seem landed in a difficulty. But the real object, as we have seen, is in each case not the same but different, and to attend actively to a *mere* sensation or to a *mere* pain is in no case possible. The sensation or the pain or the pleasure never is and never could be the entire and real object. It is but one feature in that larger object to which I really

[1] In the end it takes us back to the question of the true essence of negation, and I think that wrong views as to this have in certain points injured psychology. The possibility of a negative will and the real nature of aversion are points to be discussed in a future article. For the second of these see MIND, No. 49, p. 21. The doctrine of our text will be shown in another article to have vital importance also with regard to the question of mental conflict and of imputation.

attend and which in each several case may differ widely. Thus with pain my true object may be the means which I use to remove it, or I might possibly attend to the dwelling on my self as a sufferer from this pain, indignant or unresisting or calmly resigned. My object and my attention in each of these cases is something different, and, if the effects vary, that result is surely natural. Again I may attend to a present pain not as to a thing by which I now am perturbed, but as to a fact in which I take theoretical interest. I may wish to observe this pain as a given psychical phenomenon, or I may wish to view it in its wider bearings either as this pain or more generally, and in either case as an element in the moral world or in the Universe at large. The object even of such theoretical attention will not be the same in each case. And even here the effects may be more or less diverse, but the *general* tendency is here, we may say, to subordinate the pain as now felt and so to weaken it. From this I may go on to attend in a different way. I may fix my mind on the pain as a thing which should not be attended to except with contempt. Here my real object is the practical degradation or extrusion of the pain, and this negative process involves a positive object and a positive volition. My aim is to carry out that idea of my self which satisfies me and of which I approve, and such an object implies the negation of the pain. But there is, I think, no occasion to enlarge and to dwell further on this instance. Enough has been said to make clear the essential ambiguity of the 'object'. There is in brief never any presumption that what we are disposed to call attention's object is the real object of attention; and that real object may even on the contrary consist in the positive suppression of the nominal object. Hence every inquiry must begin with this preliminary question, What in the case before us really is contained in the true object of attention?

I will now briefly touch on a point which I have noticed already, the meaning which should be given to a 'permanent attention'. We should all say naturally that perhaps for weeks we have been attending to something, and it is of course obvious that through all this time we cannot actually have attended. And in the same way we 'keep watch' where through all the time we have not been actually watching.[1] We mean, I presume, that we have had

[1] See here Prof. James, *Psychology*, i., 420. There is no doubt that sustained active attention generally means a succession of willed acts, but it is not clear what are the limits of such an act. There must be an

throughout a constant will to observe, and the sense to be given to a constant or permanent will can be best discussed further in a later article. But here as elsewhere, whenever we speak of attending, we mean a special attention with regard to a certain particular purpose. And if through any period our amount of actual attention has been sufficient for that purpose, we naturally express this by asserting that through all the time our attention has been there. It has not really been there, but what has happened has been this. The idea of carrying out the proposed end has been associated with my inner and outer worlds in such a manner that, given the occurrence of any change sufficiently connected with this idea, my actual attention to the means will at once be aroused. And thus by a licence our attention is said to have been present throughout, since it has been present conditionally. And it has been actually present so far as our end and purpose requires, and everywhere the necessary amount of attention is and must be measured by the purpose and the end.

From this I will go on to offer a few remarks about the fixation of attention. If we remember that active attention involves will, and that will is the self-realisation of an idea, we can at once reply generally to the question how attention is fixed. Active attention is fixed always by the idea of an end. The idea, we have seen, may be the idea of an activity which is no more than theoretical, but in some form the idea of an end is essential. Wherever it is absent, there at least for the time we are without active attention. We may be in a sense occupied and engrossed, we may be in such a state that whenever we deviate we are brought back, and hence, as we have just explained, attention is present in such a state conditionally. But, apart from an idea which realises itself, we are not actively and in the proper sense attending. We may say then that always and in principle attention, in the sense of active attention, is fixed by an idea. And if we endeavour to pass behind this idea to a more fundamental attention, we are led either to a fresh and more remote idea or to something which certainly is not active attention and will. We may doubtless ask a further question as to how ideas themselves become fixed, and this question is doubtless as important as it is wide and difficult. But I do not think that

idea which realises itself, and, when that is over, the act is over, until again we have an idea, either the same or another. But suppose, *e.g.*, I have willed to occupy myself with a subject and the occupation goes on, at what point does that occupation cease to be the realisation of my idea and so to be my act?

such a problem falls within the limited scope of this article, and at any rate it is impossible to deal with it here. A question which involves difficulties such as would be raised, for instance, by any discussion of what are called "fixed ideas," deserves to be treated with some respect.

How and under what laws the idea acts in attention is again a question which I cannot attempt here to answer. Without entering on this I will briefly notice our employment of outward objects. As a help to concentration on an abstract problem we are used to gaze on something prominent in our field of vision and so to anchor our thoughts. This familiar process has two sides. It is in part negative and serves to inhibit distracting sensations and movements, but in the main and in principle it is positive. The outward object has itself now become part of the content of an idea, the idea of myself pursuing a certain end. And hence the object itself now on occasion resuggests the pursuit and so resists deviation.[1]

I will conclude with some observations on a point which bears on the foregoing, the connexion between attention and what is called 'conation'. We have here again a term which is dangerously ambiguous.[2] Conation may be used for something which is either not experienced at all, or at least is not at all experienced as conation. But, passing by these senses, I should deny that conation is involved in attention, unless conation is used merely as a general head which includes volition. If it were used more narrowly and taken to imply an experienced effort or striving, we could not truly say that all volition and attention contain it. Attention, being will, must involve an opposition between existence and idea, but I cannot agree that this opposition must entail an effort and struggle. The resistance of the fact may be no more than what comes from inertia, and to remove it actually may cost little more than to anticipate its removal ideally. And if the alteration of existence implies always a struggle, I at least can often neither perceive this nor feel it. And hence I could not admit that, used in this emphatic sense, conation belongs to all active attention.

[1] On the unmeaning movements made in attention see Prof. James, *Psychology*, i., p. 458. He however omits to notice that, beside "drafting off," these movements, if monotonous, may fix positively. A movement with one character may serve as a fixed object. How far, if at all, without a fixed external world any attention and any self-control would in the end be possible, is an interesting question on which here I of course do not touch.

[2] With regard to conation I may refer the reader to MIND, N.S., No. 40.

It is true (to pass from this point which is of little importance) that our attention corresponds on the whole to our permanent interests. Our attention may be said to answer in the main to the felt wants and the unfelt needs of our nature and to conduce to their satisfaction. But to turn this broad correspondence into an essential unity, or even into a necessary connexion, is indefensible. It is an attempt to force a construction on the facts against which the facts, unless we close our eyes, most evidently rebel. Thus to identify every 'disposition' with an actual conation is plainly unjustifiable, so long as we use conation for that which is experienced and of which we are aware. And if on the other hand we take it as something either not experienced at all as conation, or at all events not so experienced by that consciousness of which we speak, we should at least make clear what it is that we do and that we do not assert. But, if apart from such hypotheses we go by the facts, one conclusion becomes plain. We may will and may attend actively because we have first been compelled to 'attend' passively, because, that is, we have been somehow impressed and laid hold of by an idea.[1] And if attention is used in this improper sense, we often will because we have attended, and do not attend in the least because we will. If one follows the known facts one must admit the existence of volition, where the idea realises itself quite apart from any antecedent desire or conation, and where these have not even contributed to the origin and suggestion of the idea. We may end in such cases, and we probably do end, by attending actively to the idea, but we may do this because and only because the idea has laid hold of us passively. Thus our will to realise this idea in external action and in inward knowledge is but the self-realisation of the idea which so has possessed us. And you cannot, if you keep to facts, maintain even that the suggestion holds us in all cases because it arouses desire or even pleasure. For in some cases these both are absent, at least from the known facts, while in other cases we may find even the presence of their opposite. In short the attempt to get rid of ideo-motor action, or to deny that at least some ideo-motor actions are volitions, is founded on error and leads to a conflict with fact.[2] The suggested idea which moves us does not, to repeat this, always move us because in any sense it corresponds to an actual conation, if, that is, conation means something

[1] 'Idea' here includes any suggestion even when coming straight from a perception.

[2] I hope to show this at length in a future article.

which we know and experience. This idea may come from an association, or it may arise from some kind of external or at least sensational emphasis, or we may be unable in any way to assign to it a psychical origin. There are cases where all that we are aware of is that the idea somehow is there, and that in itself it does not please us nor do we desire its fulfilment. But the idea remaining there, and because it remains there, becomes insistent and goes on to realise itself, and in this way unfeelingly forces, we may say, our will and our active attention.

If it is urged that we have a general disposition to realise all our ideas, I have no wish to gainsay this. I am not, however, prepared to agree that such a disposition is ultimate, and in any case the assertion that it essentially depends upon pleasure or pain or essentially answers to a conation, I must once more repeat, seems really contrary to plain fact. You may add again, if you please, that, without some special disposition in each case, no idea could hold and possess us. And once more, if you will not in every case assert the necessary presence of pleasure or pain or of conation or desire, I am ready to accept and even to endorse this doctrine. But in some cases I must insist that this disposition is but physical, physical I do not say entirely but for the most part and in the main.[1] If you are true to facts, and if you keep to that individual soul with which alone you are here concerned, you cannot in all cases take the disposition as psychical. But to suppose that, with a physical or with even a psychical disposition, a step has been made towards refuting the doctrine which we have advanced, would in my opinion be most mistaken. It is a subject which however cannot be further pursued in the present article.

[1] What I mean is this, that, however right you may be in saying that for psychology a certain disposition is merely physical, you will never be right in asserting that its psychical result comes merely from it, and that psychical conditions have contributed nothing to that result.

II.—THE LATER ONTOLOGY OF PLATO.

By A. W. Benn.

It is only within recent years that a complete and satisfactory view of Plato's philosophy has been made possible. Such a view may not yet exist; but at any rate we have what our predecessors had not, something like adequate materials for its construction. By a rare good fortune, indeed, the world has always possessed all that Plato ever wrote about philosophy; but his writings have come down to us without any authoritative interpretation, with imperfect external evidence of their authenticity, and with no external evidence whatever, beyond the fact that the *Laws* was the last published, of the order in which they were composed. There are thinkers like Plato's own disciple, Aristotle, who can be thoroughly understood in the complete absence of such chronological information, for their systems are perfected before they begin to teach, and each successive treatise does but add fresh illustrations of the same unalterable principles. That formal systematisation was ever present as an ideal to Plato, but was never actually realised. His artistic instincts were always leading him away from the rigid symmetry which as a dialectician he professed to admire; as an Athenian noble he despised those habits of plodding industry without which strict self-consistency cannot be achieved; and above all he had a mind that was always growing, that readily responded to altered circumstances, and that was constantly assimilating new material. The older interpreters could not see this, they mistook him for a pedant like themselves; and there are some who cannot see it now. Hence one attempt after another has been made to get rid of the contradictions that abound in his writings by a perverted exegesis, or by a wholesale rejection as spurious of some of the most important Platonic documents; or, if of a more genial turn, they contended that this great inaugurator of reasoned truth threw out with supreme irony a handful of irreconcilable theses to be fought over by his credulous disciples. It has been reserved for our own

time to introduce into this study also the fertile method of evolution already applied with such success to the Pentateuch and to Homer; and, what was indispensable to a right understanding of Plato, it has given us, to begin with, an account of the order in which his *Dialogues* were composed, based not on any doubtful *a priori* theory of their logical development, but on unimpeachably disinterested philological evidence.[1]

For this important achievement, the indispensable condition of all further progress, we are chiefly indebted to English scholarship; and that such should be the case seems a fitting reward for the devotion to Platonic studies which has honourably distinguished our country ever since the Tudor period, a devotion common to our thinkers and our poets, to the children of the Renaissance and the children of Puritanism, to the pupils of James Mill, and the pupils of Jowett. There is, indeed, as Wordsworth observed, a large infusion of Platonism in the English genius; and the claim will only be rejected by those who have failed to discern how much of practicality there is in the one and how much of idealism in the other. But the kinship of the English mind to the mind of Plato, if such there be, is a privilege that has its dangers. Our interpreters are apt to put more into him than he contains, to read him in the light of their own favourite speculations, to credit him with a maturity, or at least a modernity of which, with all his anticipatory reach, the Athenian prophet was quite incapable. Charles Kingsley tells us of a Cambridge tutor who put a too inquisitive undergraduate in his right place by observing that their business was to translate Plato, not to understand his philosophy. If that stern teacher still lives he might profitably warn a later generation that their present business is to understand Plato's philosophy, not to translate it into terms of modern thought. The author of the *Parmenides* and the *Timæus* was neither a Hegelian nor a Kantian, neither a Leibnizian nor a Berkeleyan; he was not even a Platonist, except in so far as Platonism means a life-long passion for truth, an unwearriable capacity for rising to new points of view. But we must learn to admit that among those points of view the subjectivity of modern philosophy had no place. The notion of matter as a mental function, still more the ideality of space and time—first glimpsed by Spinoza—never dawned on his horizon.

[1] For a full, clear and interesting account of the methods and results of this investigation, see Lutoslawski's *Origin and Growth of Plato's Logic*, London, 1897.

In this respect the Germans, with their wider and more careful reading, have a great advantage over us. A critic like Zeller acquires from his familiarity with the whole range of ancient and modern speculation a certain tact that makes such misconceptions impossible to him; and when they are seriously put forward by others his familiarity with the Platonic texts brings to his memory the decisive passages by which they are dispelled. That Zeller should refuse to admit what is good and sound in English criticism when he finds it associated with the chimerical interpretations alluded to is natural, though regrettable. But there is reason to hope that younger German scholars will keep a more open mind on the subject.

So far it may be claimed that one important result of the new Platonic criticism has been placed beyond all reasonable doubt, and that another result, although far from certain, has been made at least extremely probable. Of these the first relates to the order of the *Dialogues*, and the second to the Theory of Ideas. It is now generally admitted that the so-called dialectic dialogues were written after the *Republic*, and represent a more advanced stage of reflexion; while among the dialectic dialogues themselves the *Parmenides* precedes the *Sophist*. The *Timæus* keeps its old place as a late composition coming not long before the *Laws;* and a strong case has been made out for assigning the *Phædrus*, once considered a very early work, to a date falling shortly after the completion of the *Republic*.

With regard to the true meaning of the ideal theory there is less unanimity, and it is a question on which opinions will perhaps always differ. Until a comparatively recent period the accepted interpretation was that Plato credited the Ideas with an independent and separate existence apart from the sensible appearances in which they are manifested to us. Many passages in his own writings, backed as they are by the clear and emphatic testimony of Aristotle, might be quoted in support of such a view. But an increasing number of scholars seem to agree in thinking that it is irreconcilable at least with the positions maintained in what are now ascertained to be the later dialogues. This at any rate is my own view, and the present article is offered as a contribution to its support.

It is admitted that Plato, under the name of Parmenides, has anticipated all the objections subsequently urged against the transcendence of the Ideas, and that he has stated them with a vigour that leaves little or nothing to be desired.

Whether he is attacking his own former theory, or the theory of his disciples, or the theory of the Megarians—a school which by the way seems to owe its existence largely to the historians of philosophy—is a question of little importance in this connexion. The difficulty is that he seems to give away his own criticism by concluding with the declaration that to disallow the existence of eternal and immutable Ideas is to destroy the possibility of dialectics (*Parmenides*, 135 B-C). But such an assertion makes at most for an attitude of provisional scepticism, and leaves the objections to the transcendental theory unimpaired. Perhaps we shall find in the sequel that Plato afterwards hit on a method, more or less satisfactory, for making his way out of the dilemma.

The second part of the *Parmenides* professes to furnish a new mode of testing hypotheses by alternately assuming their truth and falsity, deducing the consequences that result from each position, and comparing them with one another. The cases chosen are the existence and the non-existence of the One. We are invited, that is, to consider what follows from either alternative, first with reference to the One itself, and then with reference to all other things; the reason given for limiting the discussion to these particular theses being that the counter thesis, 'If the Many are,' had already been discussed by Zeno, the disciple of Parmenides, with a view to defending his master's philosophy against superficial objectors. For Parmenides, according to Plato, asserted that the One alone truly is; and when people made merry over the absurdities that follow from such a doctrine Zeno retaliated by exposing the still greater absurdities that would follow from the reality of the Many.

It is important to note that the terms One and Many, as used by Plato, have by no means the same force as the same terms as used by the Eleatics. What with them had been a purely geometrical distinction has become with him a metaphysical distinction. The All, said Parmenides, is one continuum without separation or distinction of parts. For, added Zeno, if space were conceived as divided into parts sundry impossibilities would follow. Plato, on the other hand, means by the One the idea of unity conceived in its very highest degree of generality, and by the Many he means everything besides, everything that is not unity. It is therefore clear that in developing the logical consequences of assuming the existence or non-existence of the One he is not speaking about the universe as a concrete whole; nor do his difficulties find their solution in that view which looks on the Absolute as the reconciling synthesis of contradictory

attributes. Indeed he has been at some pains to exclude such an interpretation. In the *Parmenides* itself he warns us that the discussion is not concerned with visible objects, which are just what the historical Zeno was concerned with (129 *sqq.*); the warning is repeated in the *Philebus*, where, in evident reference to the present argument, the common and obvious paradoxes about the One and Many are only mentioned to be dismissed as childish in comparison with the puzzles arising from the consideration of purely ideal unities (14 D); and once more in the *Sophist* Plato shows himself perfectly aware that the Absolute of Parmenides was not an abstract unity, but an individual extended whole (244 E). It is then merely by a dramatic equivocation that the Eleatic couple are introduced as talking about the One and the Many in the *Parmenides;* and we have to ask ourselves why Plato should single out that particular pair of terms for the application of the dialectic method by which the validity of the ideal theory is to be finally tested.

The answer is, in my opinion, that Plato has chosen this particular pair to operate on because the opposition of the One to the Many is the most general expression for the ideal theory itself. He has told us repeatedly in the *Republic* (476 A, 507 B), in the *Phædrus* (265 D), and now once more in the *Parmenides* itself (128 E *sqq.*) that every Idea is the reduction to unity of what our senses showed us as scattered among a multiplicity of phenomena; while in the *Republic* he had pointed to an ultimate Idea, the Good, to which the particular Ideas are in turn related as many to one (509 A, 511 B).[1] If then the assumption of this highest abstraction leads to a series of inextricable contradictions the very acropolis has been betrayed, the old theory must be abandoned as hopeless, and a new interpretation of nature substituted for it. The logical value of the reasonings that fill the latter part of the *Parmenides* is not now in question. They may form a chain of rigorous demonstration, or they may be a tissue of sophistry. In either case the net result is the same. The theory of separate Ideas when reduced to its simplest expression lands us in a quagmire of hopeless contradictions.

A word has been said about the fallacy of interpreting Plato by identifying his doctrines with the results of modern thought. Nevertheless where there is no danger of such confusion, examples drawn from modern philosophy may advantageously be used in illustration or development of his

[1] I think this may fairly be taken as Plato's meaning, although he does not state it in so many words.

principles and methods. In the present instance Locke's criticism of the theory of innate ideas, furnishes, I think, an appropriate parallel. It will be remembered that the great English thinker in contravening the doctrine that there are certain primary notions not acquired by experience which the mind brings with it into the world and possesses in perfection from the first moment of its existence, opens his attack by disputing the *a priori* origin of the two axioms, 'What is, is,' and, 'It is impossible for the same thing to be and not to be'; 'for these,' he thinks, 'have of all others the most allowed title to innate'. But I do not understand Locke to assert that any one had ever in so many words declared these two propositions to be innate; nor am I aware that they were classed as such either by the Stoics or by Lord Herbert of Cherbury, or by Descartes, the opponents whom throughout he has in view. Any how he argues that if principles so general and so certain are not innate, no others are; and although he discusses on their own merits some alleged cases of innateness, the question has, in his opinion, been virtually decided by showing that the supreme laws of logic are not present to every human mind from the moment of birth.

Now what I would suggest is that Plato uses the One and the Many as Locke uses the laws of Identity and Contradiction, namely, in order to cut out the transcendental theory by the roots. For the result of his inquiry is to demonstrate, at least to his own satisfaction, that whether we assume the ideal One to be or not to be, it will both be and not be, and will involve everything else in the same disagreeable predicament. In other words it is a thoroughly nonsensical conception. And we are left to infer that what is true of the supreme Idea must be true of all particular Ideas; they cannot without contradiction be isolated from the multitudinous phenomena which they unite.

But the interest of the *Parmenides* is not exhausted by this result, revolutionary as it seems. It not only gives evidence of Plato's dissatisfaction with the transcendent realism of his middle life, but it also throws a light forward on the inquiry that was next to occupy his thoughts. This is a point on which his silence becomes more significant than his speech. The dialogue is left unfinished,[1] at least to the extent of having no formal conclusion. The interlocutors do not take leave of one another, nor do they agree to meet for a further

[1] I say this deliberately, after reading Maguire's argument to the contrary.

discussion of their difficulties. May we not suspect that Plato was surprised in the middle of his search by an unexpected discovery which so to speak cut across his path at a right angle and set him on a new line of reflexion? To hazard a guess, the discovery was that in losing his first principle of existence he had lost, what to him was no less valuable, his first principle of classification as well.

For knowledge as well as for being the first principle took the form of a contrasted couple. Without such an antithetical arrangement indeed Greek thought could no more live and move than one of the higher animals could live and move without bilateral symmetry of structure. Even when the opposing terms were identified, as by Heracleitus, or one side suppressed, as by Parmenides, it was only their simultaneous presence to the thinker's mind that made thought possible. Now Plato, as we have seen, had chosen the antithesis of the One and the Many as the most general expression of his ideal theory. But on profounder reflexion it had melted away under his touch. Each of the Many reproduced the One: the One resolved itself into an infinite multitude of parts. Fatal to his own system, he seems to have believed that the result was fatal also to the Monism of the Eleatics. Nevertheless it was apparently to Parmenides that he turned in search of a new expression for the ultimate antithesis. At any rate in his next important dialogue, the *Sophist*, three such fundamental distinctions are enumerated, and all three may be traced to the great poem of the Italiote sage; these are, Being and not-Being, Rest and Motion, the Same and the Other (Identity and Difference). Parmenides had declared Being to be eternally unmoved and absolutely homogeneous with itself. According to him Motion and Variety have no positive meaning; they are mere negations, forms of not-Being, and therefore not only non-existent, but even inconceivable, for what is not has most emphatically no being even for thought, since to be thought of and to be are the same. But Plato demurs to the summary logic of his revered master, and at once puts his finger on a fatal flaw in the chain of reasoning. Being and not-Being, he observes, so far from excluding one another in the rigid manner assumed, are found everywhere co-existing. To say that a thing is itself is to say that it is not anything else. To remain within the limits of the categories above enumerated, Rest is not Motion, and the Same is not the Other. Moreover since both Rest and Sameness *are* they coincide to a certain extent with Being, but do not exhaust it. Thus in reference to pure Being they both are and are not; while

again Being as such is neither Rest nor Sameness, although it rests and is the same with itself. In short not-Being turns out to be just Otherness, and as an independent category must be altogether struck out of our list, which is thus reduced from six to five members, Being, Sameness and Otherness, Rest and Motion, each participating in the nature of the remainder, with the possible exception of Rest and Motion, the relation between which is left unsettled (250 A-259 B).

These somewhat scholastic refinements—which, however, are filled with interest and vitality in the original exposition—must be carefully borne in mind if we would understand the further development of Plato's ontology in the *Timæus*. It will be noticed that our old friends the One and the Many are not included in the list of ultimate Forms. There is an occasional reference to them in the *Sophist;* but on the whole Plåto seems to have convinced himself that they were unserviceable as points of reference in the reorganisation of thought. Or it may be permitted to conjecture that he had now come to identify the Many, like not-Being, with Otherness. In the latter part of the *Parmenides* he had substituted a different expression τἄλλα (the others) for τὰ πολλά (the many); this would easily pass into θάτερα, and then into θάτερον—the Otherness of the *Sophist*, and this would at once evoke its opposite ταὐτόν the Same as a substitute for the One.

As another important result—important, that is, from the Greek point of view—we note that Being has been left without an antithesis, not-Being having been identified with Difference. Now according to a fundamental law of Greek thought that which has no opposite must mediate between opposites. Plato's last analysis then has for its logical consequence the necessity of finding a pair of terms between which Being can be placed; and his table of Forms furnishes two such couples to choose between. It will be remembered that these are Same and Other (or in our language Identity and Difference) on the one hand and Rest and Motion on the other. When he wrote the *Timæus* his choice was made.

Stated generally the object of the *Timæus* seems to be to show how the universe is constructed, how a knowledge of its structure has been made possible for man, and how that knowledge becomes available for the reorganisation of human life. More particularly it is an attempt to provide a satisfactory substitute for that ideal theory which the *Parmenides* had shown by two distinct methods to be untenable, and to effect this by concluding the process of simplification first begun and partly carried out in the *Sophist*.

Plato entered on his literary and philosophic career as a religious agnostic of the Socratic school. Believing like his great master that the gods had reserved the secrets of the external world for their own exclusive cognizance, he devoted himself during the greater part of his efficient life to the study of ethical and logical problems, without any absolute confidence in the power of the human mind to solve even these. But increasing familiarity with the work actually done by contemporary science, especially perhaps in Western Hellas, convinced him that the 'meteorologists,' at whom he had been taught to sneer in his youth, had reached results both in mathematics and astronomy of undeniable certainty, of great immediate utility, and of still greater promise for the future. Personally his opinion of their abilities might not be much altered: he 'had never met a mathematician who could reason'; but he saw that their demonstrations offered a model to which the true reasoner was bound to conform. Again his ethics led him to infer that so mean a passion as envy could have no place in the divine counsels; while his devotional feelings culminated in the identification of the human with the divine spirit. Finally his political studies taught him that the problem of social reorganisation could not be isolated from the problem of cosmology as a whole.

The study of cosmology threw Plato back on the systems of early Greek philosophy. All of these are more or less represented in the *Timæus*, and much of its obscurity is due to his not always very successful attempts at a reconciliation between their opposing or intersecting methods. Our business is only with those parts which seem peculiar to himself and which enter into the general plan of his philosophy conceived as a self-developing logic.

Taking up the thread of that development where it was dropped, we recall the significant circumstance that the form or category of Being was left without its original antithesis not-Being, and that accordingly by the laws of Greek thought it had to be placed as a middle term between two extremes. Well, the principal speaker in the *Timæus* tells us in the mythical phraseology employed throughout that dialogue that the supreme God mingled together the Same and the Other and produced from them the form of Being, situated between the two (35 A). It must indeed be admitted that the word which I have translated 'Being' is not identical with the word habitually used in the *Sophist* to express that category. In the earlier dialogue Plato says *τὸ ὄν*, in the present instance he says *ἡ οὐσία*. But in the *Sophist* also

ἡ οὐσία is used at least once as absolutely synonymous with τὸ ὄν (250 B) ; and the latter term has probably been avoided in the passage where the composition of Being is described simply because Plato has incidentally to speak of all three categories, the Same, the Other and their joint product as τρία ὄντα, 'being three things,' and there would have been a certain absurdity in implying that two out of the three were in being before Being itself had begun. If, however, it seems desirable to use the word Being only where the original has τὸ ὄν there can be no objection to translating ἡ οὐσία by Existence.[1]

To place Existence between Identity and Difference and to represent it as resulting from their union is more than an advance in logic, it is an advance in metaphysics. For what Plato really means is that the supreme Ideas are not hypostasised essences, but simple abstractions derived from the analysis of concrete existence and having no actuality apart from it. Even in the *Republic* he had already hinted at such a conclusion by declaring that the highest of all Ideas, the Idea of the Good, far exceeded existence in dignity and power (509 B). We may suppose that this superiority consists in the fact that the Good, or as we should say the Ideal, is perpetually moulding reality into conformity with itself.[2]

But this refusal to acknowledge an independent and isolated existence of the Ideas is not to be confounded with a mere reversion to the common-sense or Cynical point of view. It is the natural outcome of Plato's practical genius, the metaphysical expression of his reforming enthusiasm. What he calls the Same is in truth the assimilative principle, the tendency towards order, harmony, and reconciliation. He has already told us in the *Sophist* that being means nothing but power, the capacity for acting or for being acted on (247 D-E). Therefore that the Same may *be* it must assimilate

[1] This is also the word used by Dr. Jackson in his summary of the *Timæus* (*Journal of Philology*, vol. xiii., p. 6). Mr. Archer-Hind renders ἡ οὐσία by 'essence' in his translation of the *Timæus*. I had already proposed 'Existence' in my *Greek Philosophers* (vol. i., p. 266); but I cannot tell whether or not the interpretation was original.

[2] Plato would evidently not have agreed with Descartes in holding that the idea of perfection involves that of existence. A remarkable parallel to his position may be found in that last dying speech and confession of French Eclecticism, Vacherot's *La Métaphysique et la Science* (Paris, 1858), where it is argued in direct opposition to the school to which the author originally belonged that all reality is necessarily imperfect (vol. ii., p. 68); and the parallelism is the more significant as Vacherot himself was not aware of it, being imbued with the old belief that Plato realised his Ideas.

the Different to itself, must carry law and order into what else were chaotic. And that the Different also may *be* it must undergo this action, must submit to this assimilation. Nor is their union a type of practical endeavour alone; it is also the mainspring of scientific classification, which for Plato meant science itself, that which makes possible the dialectical ascent and descent through successive groups of things, with a preponderance of identity at the upper end, of difference at the lower end of the scale.

It is perhaps for this reason, with a view to the exigencies of classification, that the Same and the Other, although without reality apart from their union, are represented as not merged in it, but as continuing to preserve a certain separateness as objects of thought. Such at least seems to be the meaning of a rather mysterious passage in which the Platonic Timæus tells us that God mixed together the Same, the Other and Existence to form the soul. It implies that there are various types of existence distinguished by the relative homogeneity or heterogeneity of their contents, and realised in the first instance as more or less uniform or irregular modes of motion.

Here we enter on the most critical part of the whole discussion, and I must ask the reader to give his best attention to what follows. It relates to the vexed question of what Plato understood by soul (ψύχη).

The introduction of a creative God in the *Timæus* is, of course, purely allegorical. Nothing existed before Existence itself; and no external power was needed to combine the abstract elements into which it is decomposed by thought, as in reality they had never been separated. So much is now generally admitted. But the notion of a cosmic soul seems to be more seriously intended; and it is just what has given rise to the theories alluded to at the beginning of this paper as involving, in my opinion, a complete misinterpretation of Plato and a gross anachronism in the history of philosophy. It has not been sufficiently considered that by soul the Greek thinker means an invisible and intangible, but not—what is for us the decisive note of spiritualism—an inextended substance. In the present instance the soul described is, as may easily be gathered from the detailed account of its structure, a limited area of space divided into several concentric zones and engaged in perpetual movement. That space or any part of it should move is for us an inconceivable supposition; but Plato seems to find no difficulty about it. The difficulty for him would rather have been to conceive space as *not* moving. And these rotatory figures

into which the soul-substance is divided are no allegory; they are the orbits of the heavenly bodies, the sphere of the fixed stars with the enclosed spheres (or wheels) in which the sun and planets are carried round the centre of the universe, *i.e.*, the centre of the earth;[1] and in speaking about them as divisions of one great soul he means to emphasise their pure and incorruptible nature, the unchanging constancy of their movements, the mathematical harmony of the intervals by which they are separated, and the spontaneous energy with which their revolutions are performed. Whether seriously or not, these revolutions are represented as being indispensable to the free play of the cosmic intelligence, which through them is kept in touch with every part of the universe and made aware of what goes on through its whole extent. As Grote puts it in his business-like style, 'information is thus circulated about the existing relations between all the separate parts and specialties'.[2]

The conception of soul as inseparable from extension was inherited by Plato from Parmenides, with whom it was a survival of the primitive animism common to all mankind. After refining down corporeal existence to pure space the Eleatic master proceeded naïvely to identify this attenuated residuum with pure reason, a confusion in which he was followed by Anaxagoras, and which Aristotle was the first to overcome. No thinker indeed has ever made more of the distinction between soul and body than Plato; yet the distinction as we find it in him is always somewhat wavering and relative. From the ideal scheme of the *Timæus* we may perhaps gather that by soul is to be understood that form of existence in which the element of Identity prevails, by body that in which Difference prevails. According to this view, pure space stands for the utmost conceivable amount of Difference, a dim something just at or a little beyond the bounds of legitimate thought. For to Plato as to Kant to think was to condition; only what to the modern is a merely subjective process was to the Greek an objective process also, the process which alone makes existence possible, the process of limitation.

In a somewhat earlier dialogue, the *Philebus*, which like the *Sophist* supplies a connecting link between the *Parmenides* and the *Timæus*, Plato had described this process as a

[1] I am inclined to think that Plato thought of the sun and planets as being carried round the centre of the universe by flat bands or hoops according to the theory of early Greek astronomy, not by spheres as in Aristotle's cosmology.

[2] *Plato and the Other Companions of Sokrates*, vol. iv., p. 227 (ed. of 1885).

mingling of the Limit (*τὸ πέρας*) with the Unlimited or Infinite (*τὸ ἄπειρον*, 23 C, 26 D). With a reminiscence of his first antithetical construction he there speaks of the Limit as one and of the Unlimited as many, though without identifying them directly with the One and the Many as such; while again their synthesis, the Limited, is not treated as coextensive with existence, although a phrase occurs about generation into existence, pointing significantly in that direction (26 D).[1] But as the primary object of the *Philebus* is ethical rather than metaphysical—being in fact to show that pleasure only becomes a good through limitation—the ontological problem remains outstanding and first receives its solution in the *Timæus*, where the Limit and the Unlimited reappear as the Same and the Other, and this Other takes the shape—if shape it can be called that shape has none—of infinite space, an abstract of the content enclosed by all quantitative and qualitative limitations, and ever striving to break loose from all.

Space as defined and limited by the courses of the stars and planets presented no difficulties to Plato, for there form and content were inseparably united, and constituted the very type of eternal reality. But on descending to the lower region between sky and earth he found it filled with bodies that come into being and pass out of it again, resolving themselves into the form and matter by whose union they had been temporarily constituted. The forms, whether numbers or geometrical figures, or qualities, or groups of qualities, had long occupied his attention; he had accounted for them as terrestrial copies of eternal self-existent Ideas; and now that he had come to represent the Ideas as modifications of the Same by successive combinations with the Other placed visibly before our eyes in the heavenly spheres, it was as copies, however imperfect and distorted, of those spheres that he conceived the inhabitants of earth, as effluxes of their glory and revelations of their power, passing down by a series of degradations from perfect definiteness to something almost indistinguishable from the formless inane. Being mere images and created, or rather, if the expression be permitted, *become* things, they do not, like the heavenly bodies, possess a certain portion of space in perpetuity, but are always drifting about from place to place.[2] And as they

[1] The opposition here is between *γένεσις* and *οὐσία*; in the *Timæus* it is between *γένεσις* and *ὄν* (52 D), a clear proof that Plato uses *οὐσία* and *ὄν* as equivalent and convertible terms.

[2] So I understand the difficult words (*Tim.*, 52 C), *ἐπείπερ οὐδ' αὐτὸ τοῦτο ἐφ' ᾧ γέγονεν ἑαυτῆς ἐστίν, ἑτέρου δέ τινος, ἄει φέρεται φάντασμα*, which

are dissociated from space, so space must be conceived or rather dimly imagined as dissociated from them, but as ready to assume the form of each in turn. By a curious illusion of the inward sense it is indeed represented as a partaker in their restlessness, as swaying about from one to another (52 D-E).[1]

It is this ascription of motion to what Parmenides had more justly described as absolutely immovable that makes the account of space in the *Timæus* so difficult to realise. In truth space was to Plato without reflexion what long reflexion has made it to the modern psychologist, not so much an infinite aggregate of coexistences as an infinite possibility of movement; while again this conception lapses into the conception of matter as at once the subject of movement and the object of sensation. For it is by the imposition of various geometrical figures on pure unformed space that he imagines the primary molecules of matter to have arisen; and he explains the elementary properties of matter as modes of motion due to the violent oscillations of space acting on particles of different sizes and shapes, aided as would seem by the pressure resulting from the rotation of the celestial sphere; and it is by the impact of these particles on our bodily organs that sensations are produced (52 E, 58 A, 61 C *sqq.*).

We are now in a better position to consider what has become of the outstanding antithetical couple, Rest and Motion, in the readjusted economy of our philosopher's ultimate ideas. As an antithesis it would seem to have been merged in the Same and the Other. We may, if we choose, very appropriately think of Rest as the eternally self-identical, of Motion as the eternally self-differentiating principle in things.[2] But it would be truer to say that in this instance the antithetical relation has passed out of sight. Where there is an antithesis there is, at least for Greek

Mr. Archer-Hind seems to me to have entirely misapprehended. I can make nothing of Jowett's translation, 'an image not possessing that of which the image is, and existing ever as the changing shadow of some other,' except that the peculiar force of φέρεται seems to have been missed. The intricate, not to say contorted phraseology of the whole passage gives one the impression that Plato wished to disguise from others and even from himself the extent to which he had abandoned his old transcendentalism for a theory more in consonance with ordinary experience.

[1] In the above interpretation I have tried to combine what is true in Teichmüller's view (*Studien zur Geschichte der Begriffe*, p. 328) with the generally accepted view that χώρα means empty space.

[2] Indeed as much is intimated in *Tim.*, 57 E.

notions, an opposite valuation; and it would be against all Platonic usage not to class Rest as a supreme good. Yet in the *Timæus* Motion seems to occupy a very honourable position as an essential attribute of the cosmic bodies and even of the human soul, which is represented as imitating their revolutions and as being enabled to reason only by perpetually returning on itself. Nor can this view be put aside as part of the mythological machinery by which purely spiritual relations are illustrated; for in the *Phædrus* and again in the *Laws* the soul is described as ever-moving and self-moved, while the Eleatic Stranger of the *Sophist* declares motion to be inseparable from being (245 C, 896 A, 248 E). In all these instances, however, if I am not mistaken, we are to think of Motion not as absolute, but as combined with Rest. The possibility of a direct union between the two had been suggested in the *Sophist* and provisionally rejected, but with a hint that the question might be reopened on a more suitable occasion.[1] And now in the *Timæus* the solution seems to have been found. May we not say that Rest and Motion are combined in the perfectly uniform revolutions of the starry sphere (or rather of the whole world) on its axis, of the lesser spheres on their axes, and to a less extent, that is with a preponderance of the inferior element, in all the other periodic cycles of nature? If so another abstract opposition has been reconciled in the actuality of concrete existence.

Reference has just been made to the intimate association between psychic activity and movement. The notion is peculiar to Plato's later dialogues—assuming the *Phædrus* to have been written after the *Republic*[2]—and reaches its extreme development in *Laws* (book x.), where an evil soul is postulated as the cause of irregular movements. The analogy with Zoroastrianism at once suggests itself, but is probably accidental. Where Plato is writing for a popular audience, as in the *Laws*, the introduction of moral values in connexion with physical speculations must not be taken too seriously. The significant thing is the thoroughgoing identification of soul with the cause of physical motion, with what modern science until recently called Force, or even with motion itself, considered as the result of impact and

[1] 256 B, with Prof. Lewis Campbell's note.

[2] Lutoslawski, *op. cit.*, p. 348. The absolute dates assigned by M. Lutoslawski to the *Republic* and the *Phædrus* are in my opinion much too early; and as regards the latter I do not see what support he gets from Thompson; but the important thing is the determination of their relative date, and there I agree with him.

pressure, and the merely secondary reference to feeling and thought. We can hardly suppose that Plato attributed the disturbance of one stone by another—which is an instance of what he calls irregular motion—to the direct action of Satan, or whatever else the 'evil soul' is to be called. The question is rather how far he really attributed conscious intelligence to the animating principles of the celestial bodies. We seem to be dealing with a stage of reflexion where spiritualism and materialism, monism and dualism are still very imperfectly differentiated.

> Physic from metaphysic takes defence
> And metaphysic calls for aid on sense.

Space, matter, motion, force, life, soul and reason form a continuous series, our interpretation of which largely depends on the term that we choose to take as the keynote of the whole system. And there is at least one indication going to prove that the idealist view will not bear being too strictly pressed. But here the question, already a sufficiently intricate one, becomes still more complicated by its connexion with the doctrine of final causes.

Plato distinguishes between teleological and mechanical causation, an opposition which has survived into modern philosophy. With him as with us the distinction lies between intelligent action for a pre-determined purpose and blind obedience to physical necessity. But at the very outset a difference presents itself between his point of view and ours, which incidentally illustrates the extreme caution needed in the comparative study of ancient and modern thought. For when we follow the parallel into detail what seemed a resemblance becomes a contrast. The spiritualism of Athens is the materialism of to-day. The immutable uniformity, the eternal self-repetition which we associate with blind mechanical causation and which has found its most general expression in the doctrine of the Conservation of Energy, is with Plato the end itself, and its presence the very sign of a purpose fulfilled. He sees in the revolutions of the starry heavens, in what he calls the circle of the Same, the most complete success of designing intelligence, the supreme victory of the assimilative over the differentiating power. And it is by the wayward incalculable movements of the molecules from which the four elements, fire, air, earth and water, are built up, of these elements themselves and of the organisms which they nourish that the reign of necessity is best represented. But in the interest of the present argument what concerns us most to

notice is that in direct opposition to this theory of matter he elsewhere describes two of the four elements, fire and earth, as existing for the sole purpose of being perceived by sight and touch; while the other two, air and water, are there merely to connect those extremes by harmonious mathematical proportions (31 B *sqq.*). In other words matter does not, as with Berkeley, exist through perception, but in order that it may be perceived by our senses, and therefore it takes the form of fire and earth, an antithetical couple with the usual mediating links. And now comes the very significant detail to which attention is invited. Plato tells us that the heavenly bodies were composed chiefly of fire, and the sun (as would seem) entirely of that element in order that he might illuminate the whole heaven, and that by studying his revolutions the living beings to whom such knowledge is appropriate might learn arithmetic, and through arithmetic attain to the ideas of Identity and Difference. By the way it is rather remarkable that Plato in his increasing fanaticism for logic and mathematics should completely ignore the sun's life-giving power on which he had particularly dwelt in the *Republic*. But to return: besides their bodies of fire, the sun and the other celestial orbs have souls constituted by the twofold movement that animates them, a movement of axial rotation representing the form of Identity, and a retrograde movement of revolution round the centre of the whole cosmic sphere in a circle inclined to the celestial equator, representing the form of Difference. The fiery body is apparently devoid of sensibility, and exists only that it may illustrate an object-lesson in natural law for intelligent beings, *i.e.*, ourselves. Is it likely then that the movements which it makes manifest should be constituted or accompanied by consciousness? especially if, as there seems every reason to believe, the movements are such as could be performed without the intervention of intelligence and will. [1]

To unravel this tangled skein of thought, two points must

[1] The same ambiguity is exhibited, but with much greater clearness in Aristotle's cosmology, where two independent explanations are offered of the celestial motions, either of which would render the other superfluous. The one, which may be called physical, represents the quintessential matter of which the heavens are composed as naturally moving in a circle without ever stopping, whereas fire rises and earth falls until they come to rest on reaching their respective places at the circumference and centre of the sublunary sphere. The other or metaphysical explanation (adopted by Dante) is that the heavenly orbs are animated by conscious spirits which move them round in love and emulation of the eternal self-thinking thought, itself unmoved, on which all nature hangs (*De Coelo*, i., 2; *Phys.*, viii., 10; *Metaph.* xii., 7 and 8).

be borne in mind. The first is that, as has been already observed, Plato's object in writing the *Timæus* was not merely to explain what the world is, but also to explain how it can be known. The second is that according to the unanimous tradition of Greek philosophy like can only be known by like. Plato accepted this leading, and it probably had a good deal to do with his preference for the category of identity in the construction of an intelligible universe. He had explained the heavens as a series of repetitions and imitations; he had now to bring human life under the same law, and accordingly he bends every effort towards establishing an equation between nature and man.

There does not at first sight seem to be a very striking resemblance or even analogy between the body of man and the world that he inhabits or between his mind and the principles by which that world is moved; but our logician gets over the difficulty in the following ingenious manner. The essential part of a human being is his head, the abode of reason; the trunk and limbs are mere subsidiary appendages designed to meet the necessity for nutrition and locomotion entailed by his residence in a region of perpetual flux where the loss of old material must be continually made good by the accession of new supplies. Like him the cosmic sphere and the smaller spheres that it encloses are rational animals —indeed they have furnished the pattern on which he is constructed—but being limited to rotatory movements and not subject to waste they can dispense with a locomotory, prehensile, and digestive apparatus. In short they are all head, and our heads are the heavenliest thing about us: but where are their axial and orbital revolutions?

Plato knew that our heads do not turn; and he must have known that when they seem to go round it is the worst possible sign for the orderly functioning of the brain; but he finds a parallel for the circles of the Same and the Other, that is for the diurnal and periodical revolutions of the celestial spheres in the working of a rightly ordered human reason; and he looks to the study of astronomy as a primary means of intellectual and moral discipline in the reformed society of the future. Of course it is all a fantastic way of saying that there is a unity of composition through the whole of nature, and that the steadiness of physical law is a guide to steadiness of reasoning and conduct. Yet no one would have attacked another philosopher with more merciless ridicule had he chosen a phenomenon so suggestive of dizziness as the outward and visible sign of rational reflexion, and the deliberate adoption of such an absurdity can be

explained only by the desire to force an analogy through at all hazards. But we may well ask whether the ascription of consciousness to the world without is to be understood more literally than the ascription of rotatory movement to the world within. With respect, however, to the deification of the heavenly bodies, a practical motive comes into play, which, as Plato grew older, gained increasing ascendency over his teaching. This was the desire to reconcile his philosophy with the popular faith; partly no doubt in order to escape persecution, but also, and to a greater extent, because he had come to look on a purified theology as the surest sanction of social order.

What remains after allowing the largest possible discount for dialectical accommodation, for myth, for allegory, for religious edification gained at the expense of the old Ionian plain speaking, or of extreme deference to popular fanaticism, is the great thought of identity in difference, the conquering assimilation of the Same in the cosmic order with the Same in the human self, the mystical communion, already affirmed by Heracleitus and Parmenides, to be reaffirmed long afterwards by Kant and Wordsworth, between the starry heavens without and the moral law within. And on a lower or at any rate a different plane, the plane of pure science, the *Timæus* foreshadows one of the most fertile methods of modern inquiry, never used with more searching effect than in our own day, what may be called the method of assimilation, based on the tendency of evolution to make things not more unlike but more like one another.

In tracing the outlines of this philosophy of identity one cannot but be reminded of another *Identitäts-philosophie*, of the fragmentary system which remains as Schelling's only real contribution to the development of modern thought. For the German as for the Greek ontologist the object was to reconcile nature with man; only what the one had just glimpsed as an antithesis between knowledge and being transforms itself for the other into the profounder antithesis between subject and object. But the method by which both attempt to establish an equation between disparate quantities is substantially the same. It consists in carrying over portions of each to the other side and arranging them in parallel series until a complete analogy of structure has been effected, when the two are boldly declared to be the same, or to reflect one another. For example ('that's Schelling's way!') we may argue that in self-consciousness the subject is its own object, hence there is an identity between the two and these three are one. And with a little ingenuity and

more good-will certain physical concepts may be so manipulated as to play the part of percipient subjects to others standing for perceived objects, while a third set represents the synthesis or 'identity' of the two. Thus the evolution of consciousness does but reflect on a higher plane what was prefigured in the evolution of inorganic matter and of unconscious life.

The substantial identity of mind with its object occupies a much less prominent place in the *Timæus* than in the *Naturphilosophie*. But we can hardly doubt that when Plato set up the Idea of the Same as the ruling principle of cosmic being and of human reason alike he wished the two to be regarded as essentially one. The Same must everywhere be the same with itself. And this method would have the additional recommendation of giving a new meaning and sanction to his habit of conveying philosophical lessons through the vehicle of myth and allegory. For according to his latest interpretation Nature herself is the great allegorist and myth-maker. The consummate and eternal reality of the starry sphere repeats itself on a smaller scale through all the lower spheres, of which our earth is one; on a still smaller scale, with less definite forms and with endless self-reproduction as a substitute for their eternal duration, in the creatures of the lower world. In the *Republic* he had drawn a disparaging contrast between imitation and reality, shadow and substance. He had now learned to think of imitation as the primal reality, the constraint exercised by the Same on the Other, the obedience of the Other to the Same. And perhaps he would have recognised a truer echo of his doctrine in the *répétition universelle* of M. Tarde than in all the hollow declamation of Victor Cousin.

I have already drawn attention to the fact that the Idea of the Good in the *Republic* is, like the Same in the *Timæus*, beyond existence. And the resemblance does not end there. We are told that the Idea of the Good is, like the sun, a source of life no less than of illumination, the author of being no less than of knowledge. Now this, as we have seen, is precisely the part played by the Idea of the Same, the assimilative power of the *Timæus*. It brings order out of chaos in space, it brings knowledge out of confused sensation in consciousness. And we are told that the Good can only be approached through the study of geometry—a method not less indispensable to the apprehension of the Same as Plato conceived it, that is primarily under the form of mathematical equality.

Nevertheless the Good is not the Same. For as the

analysis of the *Philebus* shows, Plato had come to think of the former after a much more concrete and human fashion—approaching very closely to the standpoint of Aristotle's *Ethics*[1]—than that under which it appears in the *Republic*. Like Existence it has passed from the position of an extreme to that of a mean. It is neither pleasure alone nor knowledge alone, but the reconciling synthesis of both, the delighted realisation of ourselves. Accordingly its metal physical functions are now taken over by the more genera-conception of Identity, which by combining with Difference actualises and reveals itself as an assimilative power. It is this which at once creates the cosmos and enables us to understand it through the consciousness of its essential sameness with ourselves. But neither is the ethical aspect of the absolute Idea forgotten; for Plato significantly reminds us that God, being good, wished everything to resemble Himself (*Tim.* 29 E).

Plato can hardly have been blind to the irreconcilable discrepancies between the *Timæus* and the *Republic*, and there is even reason to believe that he contemplated the preparation of a new and revised edition of the earlier dialogue with the omission of the sections embodying the metaphysical theories which riper reflexion had induced him to abandon as mistaken or incomplete. For without such an assumption the references to the *Republic* in the introductory portion of the *Timæus* can hardly be explained. Nearly the whole of the *Republic* as we now read it takes the form of a conversation originally held between Socrates and two young friends of his, Glaucon and Adeimantus, Plato's brothers, and repeated on the following day by Socrates himself to some person or persons unknown. But in the *Timæus* no mention is made of these young men, and the conversation about the structure of the ideal state is represented as having passed between Socrates and certain other persons not named in the *Republic*, Critias, Timæus, Hermocrates, and a fourth who is not now present. They have met again to continue the discussion; and to refresh their memories Socrates recapitulates the conclusions reached in common on the preceding day, but with the significant omission of all reference to the long philosophical argument extending

[1] Aristotle's sneers at the unpractical nature of Plato's ideal Good show how little the pupil can be trusted as an authority on the final teaching of the master. I have therefore been at no pains to reconcile his version of Platonism with that adopted in the present paper.

from book v., 471 C, to the end of book vii.[1] Partly on account of this omission and partly for other reasons it has been supposed by some that the summary of the *Timæus* refers to an earlier version of the *Republic* than that now extant, written when Plato was comparatively young, and that the philosophical digression was inserted long afterwards as the fruit of his riper years. Such an explanation, however, has become completely untenable in the face of modern researches, showing that no portion of the *Republic* can be dated much earlier than Plato's fiftieth year; while the evolution of his thought, if it followed the order traced out in the present paper, subsequently reached a much higher stage than that represented by the conversation with Glaucon and Adeimantus. I submit then as a not unwarrantable alternative that the later Socrates makes no reference to this conversation because its author had in view an amended version of his great work, possibly on a new plan, and at any rate with a different set of interlocutors, who were to have reserved the subject of ontology for a separate discussion.

The results here arrived at are not perhaps of any great speculative interest. World-thinkers count in the history of philosophy less for what they have actually thought than for what they have been thought to think. Now at the three epochs of his most momentous influence on the human mind, that is during the years that immediately followed his death, during the early Middle Ages, and during the Renaissance Plato passed without question for a Realist in the scholastic sense, for one who attributes a separate existence to Ideas independent of the human mind and independent of the sensible particulars that they inform. In the England of our own time he has come once more to count as a literary and philosophical force of the first order; but he counts as inspiration rather than as authority, and he counts by his earlier rather than by his later works. We have learned from him how the highest culture may be combined with the most strenuous efforts for the amelioration of life, how 'the spectator of all time and all existence' must descend to be an actor in the one time and the one existence that are allotted him to work in while he has the light. And the lesson is happily independent of what his particular opinions

[1] As Mr. Archer-Hind observes, 'its metaphysical teaching is superseded by the more advanced ontology of the *Timæus*' (*The Timæus of Plato*, p. 56 note). I do not, however, understand Mr. Archer-Hind to suggest that a new edition of the *Republic* was in contemplation; and his interpretation of this 'advanced ontology' differs widely from mine.

were and whether we agree with them or not. Yet apart from the value rightly attached by all scholars to truth as such, and from the interest always attached to the correct interpretation of so great a mind as Plato's, it may be urged that the evolution of thought becomes more intelligible when we consent to treat the cosmology of Aristotle—the key to his whole philosophy—as having been moulded far more than he would have liked to admit by the method of a master to whom he was less than just, but from whom he learned the secret of a great achievement, the reconciliation of Parmenides with Heracleitus, the principle of eternal self-identity in the absolute whole with the principle of variety, relativity, antagonism, and mutual dependence in its component parts.

III.—THE HEGELIAN POINT OF VIEW.[1]

By J. S. Mackenzie.

At the opening of such a society as this, it seems most fitting to attempt a somewhat general survey of the philosophical situation, rather than to discuss one of those more specific problems with which the society may be expected to be engaged throughout the course of the long life of energetic thought to which, I trust, it may look forward. It is important that we should take our bearings from time to time, lest we lose ourselves in a multitude of details; and especially at the outset it is highly desirable that we should have some general conception of the point of view from which philosophical problems are to be discussed. For though a society of this kind is not to be regarded as existing for the propagation of any particular philosophical creed; yet I think it would be equally fatal to its usefulness to suppose that it has been called into being merely for the idle play of dialectic, merely to tear theories to rags and tatters, according to Plato's image, after the manner of puppy-dogs. It is, I think, a general condition for the profitable discussion of specific questions that those who take part in it should be to some considerable extent in agreement on the larger questions of principle and method. No doubt it is possible to carry on a society for the express purpose of discussing the point of view that is to be adopted; and indeed I should hope that this would form part, and even a considerable part, of our work here. But I am afraid the society would soon be felt to be unprofitable if we only came together to make known to one another the hopeless divergences in our ways of regarding things. We should in that case be too nearly in the position of those poor islanders, recently alluded to by the late Dr. Sidgwick, who earned a precarious livelihood by washing each other's clothes. We may sometimes be washing one another's clothes; and we may even, from time to

[1] The Opening Address to the Philosophical Society at University College, Cardiff. Delivered in March, 1901.

time, have a sort of spring cleaning; but our regular employment must, I think, be something different. We must have some sort of garments, more or less clean, to go on with.

Now the point of view from which we approach philosophical questions will no doubt be determined for us very largely by the present position of human thought in general. We may find that we have a Socrates or a Descartes among us, some one who will be able to give a new turn to the whole course of our speculations; but even Socrates and Descartes were very largely guided by the ideas that their predecessors had been slowly building up. If we were living in ancient Athens, we should have to discuss the ideas with which Plato and Aristotle were struggling: it would be vain to attempt to introduce those of Spinoza and Leibniz, though in many respects the latter were very similar to the former. So, if we were living in the seventeenth century in Europe, our best hope of progress would lie in throwing ourselves into the problems that exercised the minds of the Cartesians. At any time we shall find that there is a point of view from which a survey can be taken, and from which advance is possible. It is of some importance, therefore, to ask ourselves where we stand at the present time, and what are likely to be the most fruitful methods of procedure. It is my object in this paper to urge that the point of view from which we must set out may, in a certain broad sense, be described as the Hegelian; and to bring out what appear to me to be the most essential elements in that position.

In doing this, I must try to distinguish between a philosophical system and a philosophical point of view. A system is the construction of an individual. It generally bears considerable traces of the idiosyncrasies of its maker—his special knowledge, his peculiar interests, the virtues that he chiefly prizes, his prejudices, his limitations. A point of view is something much wider. It is the world within which systems are made. It belongs rather to the age than to the individual. The systems of Thales, Anaximander, Heraclitus, Parmenides, are vastly different from one another; but the point of view from which they are built up is very largely the same. So it is with the systems of Plato and Aristotle, with those of the Stoics and Epicureans, with those of Descartes, Spinoza, and Leibniz, with those of Hobbes, Locke, Berkeley, and Hume, with those of Kant, Fichte, Hegel, and Schopenhauer. In all such cases we have to deal partly with the constructive efforts of individuals, but partly also with a general phase in the development of the human mind. Now, it will generally be found in such cases

that some one or two writers bring the special phase in question to a focus, and enable us to see its precise significance. Heraclitus and Parmenides bring out between them the essential ideas and the fundamental difficulties of early Greek thought. Descartes shows us the beginning of one line of thought, and Spinoza its end. Hobbes represents the positive foundations of the most characteristically English philosophy, while Hume exhibits its sceptical results. So Kant gives the critical roots for German idealism, while Hegel presents to us its largest and ripest fruits. In speaking, then, of the Hegelian point of view, I do not mean to direct attention so much to the peculiar features of his own philosophical construction as to the general significance of the line of thought of which he is the most complete and conspicuous representative.

There are several grounds on which it seems to me specially desirable to draw this distinction. One is the rather obvious one, that the Hegelian system is exceedingly comprehensive and complicated. If I were to attempt to deal with its more specific features, we should soon be lost in the midst of details as bewildering as those of the Aristotelian system. We could not possibly do justice to such details, even if we could venture to hope that we had rightly understood them. Further, I am of opinion that the Hegelian system, like most other constructive systems—perhaps more decidedly than most—is an amalgam of gold and other less valuable materials. What he said about the tides is probably worth as little as what Aristotle said about the brain; and similar remarks might possibly apply even to some of the more important parts of his system. Hence I wish, as far as possible, to direct attention rather to the underlying spirit and meaning than to the more or less insignificant details. This attitude can, I believe, be justified on historical grounds. In Germany, as was natural, the Hegelian system took root as a whole, and controversies raged over its applications in particular directions, with the result that the school split up into parties, which were mutually destructive, and in the heat of whose debates the general significance of the point of view seemed almost to evaporate. In our own country the development of the Hegelian point of view seems to me to have been in some respects more fortunate. Its first and most enthusiastic exponent in this country, Dr. Hutchison Stirling, did indeed follow in the lines of its German adherents. He might fairly be described as a propagandist of the system as a system. But hardly any others of the leading representatives of the Hegelian ten-

dency in this country have adopted this attitude. The late Prof. Wallace, who did more than any one to make some of the chief works of Hegel accessible to English readers, dealt with Hegel in general, as he dealt with some other leading philosophers, not as the maker of a system, but as one who suggested certain large ideas and methods of treatment. T. H. Green, who in his later years was generally regarded as the leader of the Hegelian tendency, was very far indeed from being an adherent of the Hegelian system. According to one account, he was in the habit of saying that it would all have to be done over again. According to another, he even described the most fundamental part of the Hegelian construction as a *Wirrwarr* or Chaos. Certainly his own constructive attempts are widely different from those of Hegel, both in method and in results. Dr. Edward Caird is no doubt more fully in sympathy with the Hegelian system; but even he has been mainly occupied in making a bridge from Kant to Hegel—a bridge of which it may perhaps be said, that it is much more certain that it leads us away from Kant than that it leads us on to Hegel. The work of Dr. F. H. Bradley, again, though closer to that of Hegel than Green's, is still in many important respects both of method and of content far removed from it. Dr. Bosanquet is no doubt still closer to Hegel; but, though he has followed him very definitely on some detailed points, his general attitude is rather that of one who has absorbed some of the leading ideas of the Hegelian point of view, and who uses them freely in his own way. I need not refer to the younger members of the school, whose final position remains more in doubt; but I think it may be said of them in general that, though they are sometimes more minutely loyal in the following out of the details of Hegelianism than their predecessors were, yet their criticisms—notably those of Mr. McTaggart—point to even more emphatic divergences from the stricter tenets of the sect. Yet the result of all this has been, I think, that the general spirit of the Hegelian philosophy has gained an even firmer hold on the speculative thought of this country than it gained in Germany. Hence there seems to be some historic ground for believing that, in this as in many other cases, the letter kills and the spirit gives life. But, after all, it may be safer to rest my case on a more subjective ground. What Hegel has meant for me is the point on which I am most entitled to speak; and what I can say is that I have derived the greatest help from his general point of view, but have not as yet seen my way to follow him much with regard to details. This is

very probably my fault and not his; but, at any rate, it leads me to take a greater interest in trying to give some account of what I take to be the essential elements in his position than I should in attempting to expound the more special features of his system. I must beg, then, that you will regard what I have to say simply as a statement of what the Hegelian philosophy means for me, not what it meant for Hegel, nor what it means or may come to mean for any of you. Hegel's philosophy is a very large thing, one of the most remarkable products of the human mind; and it probably has a somewhat different significance for almost every one who approaches it. Hegel himself is said to have complained that only one man ever understood him—and he did not understand him. Perhaps all of us who try to study his work may claim in some degree to be that man. We all understand him, and do not understand him. We understand what he means for us, not what he meant for himself.

In trying to explain, in general terms, what the Hegelian point of view has meant for me, I may avail myself of a statement of the general significance of German Idealism, made some time ago by Dr. Bosanquet in a paper that is no doubt familiar to many of you—his essay on the philosophical importance of a true theory of Identity. That paper seems to me to be characterised by a more than ordinary degree of the writer's happy faculty for hitting upon the most essential points, without appearing to be saying anything very particular. He is not concerned in it, any more than I am here, with the details of the Hegelian or any other philosophical system; but he aims at a general characterisation of that movement of German thought of which the Hegelian system was the culmination. In doing this, he remarks, in the first place, that it is a mistake to suppose that the distinction between the main line of German speculation and that which is specially associated with our own country is to be found in the fact that the latter appeals to experience, or that it involves the recognition of the relativity of knowledge. No philosophy could well contain a more emphatic appeal to experience than those of Kant and Hegel; nor would it be easy to have a more ample recognition of the relativity of all things than we find in their works. It is urged, in the paper to which I have referred, that the real point of difference lies rather in the emphasis that is laid throughout the course of the German line of thought on the reality of the universal as an element of identity in difference, as against the disintegrating atomism which shows its constructive

results in Hobbes and its sceptical issue in Hume; and it is pointed out that this recognition of the universal leads to a remodelling of the treatment of some of the most fundamental questions in Logic, in Psychology, in Ethics, and in Political Philosophy.

Now, in a general way, I think we may almost regard such a remodelling as an accomplished fact in British philosophy. In Logic, Dr. Bosanquet himself, following the lead of Bradley, has done yeoman's service in this direction. We are probably not in much danger of returning either to the nominalistic Logic with its computations and equations of identities, or to the conceptualist Logic with its combination of distinct notions. The unity in difference contained in the judgment is now pretty universally recognised. In Psychology, the atomism of the Associationist school has been largely broken down by Dr. Ward's *continuum;* and, more recently, in the work of Dr. Stout, the place of the universal in consciousness has been still more completely brought to light. In Ethics and Political Philosophy we cannot perhaps as yet point to work of quite the same definite and detailed character; but Green, Caird, Bradley, Bosanquet, and others, have at least made a very good beginning in the direction that is required. If Hedonism still lingers,[1] it has certainly lost its old confident tone; and even seeks to shelter itself, as in the case of the late Prof. Sidgwick, under the wing of the universal. These various applications, however, of the idea of identity in difference, or of the reality of the universal, are almost commonplaces of the German method of philosophising. They belong to Kant, or at least to Lotze, almost as much as to Hegel. What we have now to attempt to bring out is the point of view that is more distinctively Hegelian.

Now, many would, I suppose, say at once that the most distinctive feature of the Hegelian philosophy is its Dialectic Method, which appears at every point in its course, and at every point pursues the same inevitable march. The Notion fulfilling itself through negation is thought to be "the Secret of Hegel"; and it can only be grasped by following the windings of the dialectic process from Pure Being upwards. And, in a sense, I have no doubt that this is true. The student who wishes to have a thorough grasp of the Hegelian point of view must master the idea of the Dialectic,

[1] The curious revival of it in Mr. McTaggart's *Studies in Hegelian Cosmology* is noteworthy, especially when taken in conjunction with his denial of the organic unity of society.

wrestling with the expositions of Hegel himself, and perhaps helping them out by such comments as those of McTaggart, McGilvary, Noël, and others.[1] But it is possible to make too much of this. There is a danger of exaggerating the importance of a philosopher's special method of procedure, which is often an accident, and sometimes even a separable accident, of his mode of thought. I suppose few would maintain that the geometrical method has much to do with the most essential points in Spinoza, though it is of supreme importance to remember that he was working throughout with mathematical conceptions. A still better illustration is perhaps provided by Kant. If Kant had been asked what he valued most in the contributions that he made to philosophic thought, I fancy he might have been inclined to point to his discovery of the categories. We find him returning to these again and again throughout his writings, one might almost say with affection, and seeking to apply them in all possible departments of thought. They are his bunch of keys, just as the Dialectic is with Hegel. But would any recent Kantian regard them in a similar light? I suppose it would now be almost universally admitted, even by those who value Kant's work the most, that his categories are in reality derived from a view of the logical judgment that is inconsistent with his own maturer conception of its meaning, and that, as a complete statement of the essential modes of thought-determination, they must utterly fall to the ground. What is it, then, that we at the present time most value in the Kantian system? To this there might be different answers; but I believe most of them would come in the end to this, that Kant's most real contribution to philosophy was not his system of categories but his view of knowledge as involving universals which are necessary to the constitution of any real experience. What was essential to his system, in short, was his emphasis on the necessity of a Theory of Knowledge, and his substitution of this for dogmatic Ontology on the one hand and sceptical Psychology on the other. But there are few who would accept Kant's Epistemology as final, and still fewer who would accept his method of discovering the categories as an integral part of it. This is, I think, one of the most striking illustrations of the great difference that may often be found between the underlying spirit and permanent essence of a philosopher's work and certain evanescent devices of method which he himself may sometimes value even more highly than the other. I

[1] Especially now those of Mr. J. B. Baillie.

think something of the same sort might be brought out, even more strikingly, in the case of Aristotle, whose tricks of method are completely dead, though the spirit of his thought was perhaps never more alive than now; and other instances might no doubt easily be given. Now I am disposed to believe—though I am well aware that the stricter adherents of the doctrine will regard it as a heresy—that this is largely the case with the dialectic method of Hegel. It may be a weakness of the flesh, a shrinking from 'the labour of the Notion'. The Hegelian way of getting at the categories certainly seems to me very much superior to that of Kant; but if we turn it into a mechanical process, a sort of intellectual switchback, I doubt whether it has very much value. What, then, is the really important element in the Hegelian construction? To this I should be disposed to answer, following the line that has been indicated by Dr. Bosanquet, that, as the German line of thought in general brings out the significance of the true universal, so Hegel in particular has his chief significance in the emphasis that he lays on the concreteness of the true universal, on its living relation to the whole, or, in other words, on the solidarity of experience. Let me try to bring out what I mean by this, by considering it, first of all, in its relation to Kant's general theory of knowledge.

Kant, as I have said, brought out the importance of the universal or thought element in experience. In so doing, however, he left pure sensation, on the one hand, and the thing in itself, on the other, quite out of the range of thought. The intellectual element in experience was thus made largely formal, dealing with a material to which it had no real relation. It was regarded, as Caird has put it, as if it were in the position of an *episcopus in partibus*, trying to persuade the recalcitrant particulars of sense that they ought to come into the unity of thought to have peace and atonement. It is this mere '*Sollen*' that Hegel everywhere disapproves. He does not recognise the absolute opposition between sensation and thought: he does not believe that there is any such thing as a mere manifold of sensation, and consequently does not think it necessary to assign to thought the formal task of bringing it to unity. On this point, at least, modern psychology seems to be more in accord with him than with Kant. Experience thus comes to be regarded as a whole; and the work of thought is not to make it one, but rather to make it intelligible—to bring out the essential unity and systematic connexion which are already in it. Now, if we take this view of the nature of experience, a

doubt is almost inevitably thrown on any abstract and formal methods of dealing with it—perhaps, in the end, on that of Hegel, as well as on that of Kant. The universals that have real value for us, from this point of view, are not abstract principles that are brought formally to bear upon an alien material, but principles, so to speak, that emerge out of the material itself. It is such principles, I believe, that Hegel seeks to arrive at; but the significance of this is apt to be concealed from us if we attach a too exclusive importance to the dialectic method. The essence of the Hegelian method seems to me to lie much more in its genetic than in its dialectic character. I cannot quite agree with the view that seems to be taken by Mr. Hobhouse, that the dialectic is only a kind of disease, and that the healthy mind can get to the concrete universal by a leap. But I think we miss the true significance of the Hegelian conception, if we suppose that the aim of the dialectic is to provide us with abstractions, instead of helping us to annul them. And I think also that, if any one can succeed in annulling vicious abstractions, and having a clear insight into the solidarity of the real universe, by any other method than that of the dialectic process, he would be very welcome, from the Hegelian point of view, to do so. I am, indeed, not quite convinced in my own mind—but perhaps, as I have said, this is a weakness of the flesh—that the dialectic method is even the best way of doing it. But I am convinced, at least, that it must be done genetically, and not by a sudden leap.

I conceive, then, that the significance of the Hegelian way of thinking for the modern world is very much the same as that of the Aristotelian way of thinking for the ancient world. There is, indeed, a curious parallelism between the two lines of development. The English associationists ground down the contents of experience into very much the same fine powder as that to which it was reduced by Heraclitus and his school; and Kant, just like Plato, endeavoured to give it unity again by introducing a system of universals from without (differing from those of Plato chiefly by their subjectivity). It was the great aim of Hegel, just as it was the great aim of Aristotle, to grasp the concrete, to see the world of individual facts as holding in solution the universal principles by which they are to be interpreted. A view of this sort may easily be misconceived in two opposite ways. It may be represented as merely formal or as merely empirical. Aristotle's method is easily made to appear much more formal than that of Plato, and this is, perhaps, the more

common misconception. On the other hand, Aristotle may be contrasted with Plato as a mere empiricist, and this also is a common mistake. Similarly, the Hegelian method is often thought of as a formal dialectic; and, if an attempt is made to correct this, it is apt to seem as if it were merely empirical. But in the case of both these philosophers, and in that of Hegel more definitely than in that of Aristotle, we are saved from the empirical position by the conviction that we have not truly reached what is actual unless we have been able to see it in the light of thought—that only the intelligible is ultimately real and concrete.

Now, if we accept this general statement as to the significance of the Hegelian point of view for modern thought, it is not difficult to realise why his way of thinking has meant so much for many of us—even for many who by no means accept the details of his system. With the view, however, of bringing this out more definitely, I will now make a further attempt to illustrate the value of such a point of view with reference to several distinct aspects of philosophic thought. In the first place, I wish to refer again, somewhat more explicitly, to its value from the point of view of epistemology, then to its value in dealing with the particular sciences, then to its practical value for human life, and finally to its more purely speculative significance as an attempt to solve the riddle of the universe.

From the epistemological point of view, its value seems to me to lie, as I have already indicated, in bringing out more clearly what Kant was in reality aiming at. Some, indeed, seem to think that the Hegelian point of view is merely a revolt against the Kantian epistemology—a fresh plunge of the sow that had been washed into the mire of ontology. But it seems clear that the point of view of Hegel follows directly from that of Kant. Kant's doctrine of the structure of knowledge, when baldly stated, amounts simply to this, that we start with a disconnected manifold of sense material, which it is the work of thought to synthesise; and that this synthesis takes place by means of the categories, which can be discovered by a formal analysis of the logical judgment. Now such a view presents difficulties that seem in the end insuperable. The two elements of which experience is thus made up are too disparate to form any real combination; and Kant is only able to evade the difficulty by the somewhat mechanical device of inserting the imagination as a mediating faculty between sense and thought. When we inquire more closely what this means, it soon becomes apparent that what is really involved in it is that the independent existence of

the 'manifold of sense' is mythical, that pure sense, without any admixture of thought, is 'for us as thinking beings as good as nothing'. This is a point that has been further emphasised in recent times from the point of view of psychology. Here also it is urged that we have no real experience of any such thing as an atomic sensation, and that the perplexities of Hume with regard to this are a self-created torment. But if we do not recognise an independent 'manifold of sense,' it seems clear that we must also deny the synthesising activity of thought as at first conceived by Kant. If the unity of thought is implicit in our sense-experience from the outset—and this is what the doctrine of Kant seems in the end to amount to—then the work of thought in relation to the material supplied by thought is not that of putting unity in, but rather that of bringing it out—not construction, but interpretation. Now, I cannot but think that it was in this direction that the thought of Kant itself was pointing; but, if he had definitely taken the step that is here indicated, it would have involved a complete transformation of his philosophical position. It is essentially this transformation that lies at the basis of the system of Hegel. For Hegel sense and thought are no longer opposed, except as the implicit and the explicit; and so the work of thought becomes, in a sense, analytic rather than synthetic —or, rather, both at once.

Of course, this must not be understood as meaning that the sense element in experience disappears, or loses its significance. It is sometimes supposed that this is involved in the Hegelian point of view—that everything has to be reduced to pure thought. But if this was what Hegel meant for himself, as it is for many of his critics, it is at any rate not what he means for me. To take up such an attitude would be, in a manner, to return to the position of Leibniz, according to whom our sense experience is simply a confused way of thinking. If such a view were to be put forward, it would be necessary to reiterate the arguments of Kant about screws that turn in opposite directions, and the difficulty of putting a left-hand glove on the right hand. Or, again, we might refute it by pointing to the simple distinction between the colour red and the colour blue—a difference which can only be sensuously experienced, never expressed in any form of thought. The Hegelian point of view does not, I think, imply any annulling of the element contributed by sense, but only the recognition that within this element, as in all others, there are involved universal determinations which cannot be interpreted except in the light of thought.

Now, this fundamental distinction between the point of view of Hegel and that of Kant reappears again, at the other ends of their systems. The opposition between sense and thought is the real ground for the opposition between the phenomenal world and the world of things in themselves. There must be a source beyond thought for the element that is foreign to it. Hence knowledge must be conceived, not only as limited, but even as definitely bounded. At a certain point we come up, as it were, against a blank stone wall. But if once we recognise that the universal principles which thought discovers are principles that are contained in the material itself, there is nothing left outside of thought's domain, though there may be many things beyond its immediate grasp at any given time. Thought, in fact, is conceived simply as the real world rising to consciousness of itself, not as a more or less foreign power imposing its laws on a partially subjected territory.

This leads me to notice the significance of the Hegelian point of view in relation to the various particular sciences. A complaint has recently been made by Mr. Hobhouse, that much of our modern philosophic thought tends to be rather scornful of the sciences, and that a certain scepticism about science may almost be said to be taking the place of the older scepticism about theology. No doubt this attitude of mind shows itself more particularly in the 'philosophic doubt' of such writers as Mr. Balfour, who seek to defend a conservative reaction in thought by the argument that the progress of science does not lead to truth. But Mr. Hobhouse urges that such doubt is to a large extent countenanced even by many who believe in philosophic progress. Mr. Bradley refers somewhat scornfully to the principles of the particular sciences as only 'useful nonsense,' and contrasts them, almost after the manner of Parmenides, with that completely self-consistent view of the Absolute, which alone is true. No doubt the man who is trying to view things as a whole will always be a little impatient of the specialist 'who cannot see the wood for the trees'—especially when the latter begins to deny that there is any wood at all. I believe, however, that the attitude of contempt towards the special sciences is not one that can be justified from the Hegelian point of view. Such an attitude connects itself much more naturally with the Kantian opposition—which, I suppose, is the real foundation of 'philosophic doubt'—between the phenomenal world and the world as it is in itself. The more fully we recognise that the intelligible world of philosophy is nothing but the world of experience completely

interpreted, the more shall we be led to acknowledge that it is only on the basis of the preliminary interpretation of the world by the special sciences that any real philosophic advance can be made. If, indeed, the dialectic method were a mechanical process—an intellectual switchback, as I have already suggested, on which one had simply to set oneself, and be carried along—it might well be regarded as independent of the work of the particular sciences. But I think it is only by experience—and science is an enlarged and purified experience—that we can discover the principles that are involved in the constitution of our world; and it is only by testing these principles in the interpretation of various aspects of experience that we can learn their significance and their limits. No doubt, as Hegel himself said, philosophy is apt to show itself a little ungrateful to that which supports it: it devours that on which it lives. But to devour is at least not to set aside. If the significance of the Hegelian point of view with respect to epistemology is such as I have described, there is no point of view that might be expected to encourage a more sympathetic interest in the ideas, principles, and methods of the physical sciences, though that interest would no doubt be partly a critical one. Philosophic criticism of the special sciences is apt to be too purely negative. This is perhaps a fair ground of complaint even against such a careful work as that of Stallo; and even Prof. Ward may be charged with a similar defect. It is comparatively easy to bring out the limitations of scientific ideas and methods. What is philosophically important is to combine this with an appreciation of their truth and value within their own limits. This ought to be easier to the Hegelian than to others. Others are apt to be scandalised by any principles in which there is an appearance of logical inconsistency; whereas a Hegelian is accustomed to contradictions, and knows that they merely point to limitations in the use of the ideas in connexion with which they occur.

So far I have been referring mainly to the physical sciences. The bearing of philosophical ideas on psychology is naturally more direct. It has not yet been found possible in general to separate the study of psychology from that of philosophy; and I doubt whether it would really be wise to attempt it. Psychophysical experiments and observations on children and chickens may no doubt be carried on with very little reference to philosophical principles; but, in all the more speculative parts of the study, the relation to philosophy is very close. I do not say that it is different in kind from the relation of other sciences to philosophy; but it is certainly much more

intimate in degree. Now, it is commonly thought that our modern psychology connects more closely with the Herbartian point of view than with the Hegelian; but I believe that this is at bottom a mistake. The most significant work in psychology that has recently been done in this country is, I suppose, that by Prof. Ward and Dr. Stout. Now it is certainly true that their line of thought sets out, on the whole, from Herbart; but the latest results of their studies seem to me to be far more Hegelian than Herbartian. The real significance of Herbart lay mainly in his effecting a transition from the English associationist school to the more German mode of thought. Starting with psychical atoms he sought to combine them in mechanical methods. This was no doubt interesting and led to considerable advance in the study of pure psychology, and still more in its applications to education. But it seems to me that in both directions it has been already outgrown. In particular, the recent studies of Dr. Stout have brought psychology into direct relation to the view of the universal expounded by Bradley and Bosanquet, which is essentially the Hegelian view. I notice also that some recent educational writers are beginning to recognise that the Hegelian doctrine of development is more truly enlightening than the artificial Herbartian 'circles'.

This leads me to make a few remarks on the general bearing of the Hegelian point of view on practical life. This aspect of the Hegelian teaching requires perhaps even more emphasis than any other; since it has, I think, been a good deal misrepresented. Hegel himself has been represented as a mere defender of the *status quo*—one who maintained that 'whatever is actual is rational,' and who thus, like Carlyle, turned Might into Right. His contemporary Fries, with true German thoroughness in vituperation, said that Hegel's political ideas were grown, 'not in the garden of science, but on the dunghill of servility'. There may be a grain of truth in such accusations. The two intellectual kings of Germany at the beginning of the century—Goethe and Hegel—were both characterised to some extent by a lack of sympathy with what has been known in this country as philosophical radicalism. They were, I suppose, partly influenced, like our own Burke, Wordsworth, and others, by the reaction against the revolutionary ideas that had made such a stir in France. How far this was wise in the case of any of these leaders of thought, we can hardly at this point pause to consider. All that I wish to urge is, that there is nothing in the Hegelian point of view that is opposed to any genuine

progress. If we think of man's life, as Hegel does, as a process in which the universal element in the world comes to consciousness of itself, we at once regard it as involving an ideal aim, which must progressively realise itself in history. Such a conception naturally leads to a sympathetic treatment of the past, a full recognition of the significance of what has already been achieved, and does not readily connect itself with reforms of a revolutionary character; but it is certainly as far removed from any approval of stagnation. Here, as elsewhere, the great value of the Hegelian point of view seems to me to lie in its insistence on the concreteness of the universal. Its general lesson is perhaps best expressed by saying that it teaches us to aim at wholeness and reality in life.

The most characteristically English of Ethical Systems, Utilitarianism, does not sufficiently distinguish between the real and the unreal. All forms of enjoyment are regarded by it as being in themselves equally valid. And the same is largely true of that other characteristically English theory, Intuitionism, for which we may say that every deliverance of the individual conscience has in itself equal weight. Both of these appeal to the particular, to the consciousness of the individual agent, though they do so in very different ways. The categorical imperative of Kant, on the other hand, represents the abstract universal—the mere form of law, separated from all particular contents of experience. As against all these, Hegel seeks to show the universal law in contrast with reality and as the inner meaning of reality; so as to make it appear that 'morality is the nature of things'. The modern theory of evolution does this also to some extent; but Hegel's doctrine seeks to show the ground and meaning of the process of development; and does not leave it at the sport of accident, as some modern theories tend to do.

From the political point of view, the value of this attitude shows itself perhaps most of all in its power of freeing us from such opposite dangers as those that are expressed by the terms Individualism and Socialism, Liberalism and Imperialism. I do not know that any of these terms has a very precise meaning; but they express certain tendencies with which we are all more or less familiar, and which are due, to some extent, to an imperfect way of thinking about life. There is a tendency, whether we call it individualism or liberalism or by what name we please, which seeks to leave every individual and every group to work out its own salvation in its own peculiar way. There is a great deal to

be said for it; but it often fails in practice, because so large a proportion of mankind have no real way of working out the problems of their lives, but, when left to themselves, simply drift to destruction. There is another tendency, which is known by such names as socialism and imperialism, which seeks to organise life on a large scale, fencing it round with regulations; and the rock on which this splits is that men and nations that have any force of character refuse to be run like machines. Now I know of no point of view, unless it be the Aristotelian, which raises us more completely above such opposing abstractions than that of Hegel. With him human life is thoroughly personal; but personality is the expression of a universal meaning. It is necessary for each that he develop a free personality, but this he can only do in relation to a common weal. Properly to balance these opposite aspects of life is of course a matter for the statesman and social reformer rather than for the philosopher; but it is something to have a philosophic point of view from which each side can receive its due.

But, after all, the value of a great philosophic system lies no doubt mainly in its power of supplying us with some sort of insight into the meaning of the universe as a whole. How far the point of view of Hegel furnishes us with this in a finally satisfactory form, it is hardly possible here to consider; but I may notice one point in connexion with the ultimate metaphysical significance of his system, which is closely related to that on which I have been chiefly laying emphasis, and which is often made the ground of objection to the Hegelian point of view in general. You will often find it said that in the end Hegel reduces everything to thought; that his point of view is merely logical throughout; that he practically ignores altogether the aspects of feeling and will. In this respect he is sometimes contrasted unfavourably with Schopenhauer, with Lotze, or even with Fichte and Schleiermacher. Now I do not deny that Hegel, like Herbart, may have laid a somewhat undue emphasis on the more purely intellectual or apprehensive side of conscious life, and it may well be that this has given rise to some defects in his treatment of morality and politics, and possibly also of art and religion. Perhaps philosophers, whose work consists in thinking, are rather apt in general to fall into this mistake. If Plato erred in supposing that you could make a king by dialectic,[1] it would no doubt be just as erroneous to suppose that you could make a saint or a poet by any such process, or

[1] Which, however, it is not quite fair to say that he did.

that, by taking thought, you could add a cubit to your stature, or a star to the heavens, or even a molecule to the meanest piece of matter. But I doubt whether Hegel is justly chargeable with any such mistake. At any rate, if anything of this sort is involved in what he meant for himself, it does not seem to me to be contained in what he means for me. On the whole, the criticism to which I refer appears to rest on a misconception. If the essence of the Hegelian doctrine lies, as I have sought to maintain, in its insistence on the reality of the concrete universal, it is certain that this can be found in feeling and in action quite as truly as on the more purely intellectual side of our nature. Human happiness is distinguished from animal pleasure by the presence of the universal element in it, quite as truly as human science is distinguished in this way from the vague sensitiveness of a jelly-fish. Equally does the universal element in man's life present itself in the action of a hero. We can feel and act from the point of view of the whole, just as we can think from that point of view. The 'thought' which is emphasised by Hegel is not thought as opposed to feeling and will, but thought as the conscious grasp of the universal, in whatever form it may appear; and it is only in this sense that he seeks to interpret art and religion and morality, and the world as a whole, in the light of thought.

I have now explained to you, as well as I am able, what I believe to be the real significance of the teaching of Hegel, in its bearings on some of the leading aspects of philosophic study. Its value seems to me to lie, like that of the philosophy of Aristotle, much more in the point of view than in the system. I suppose there is no one at the present time who accepts the Aristotelian system; but Aristotle's ethics retain almost as much vitality for us as they ever had; and the same is to a considerable extent true of a large part of his work in other departments. The point of view from which he approached things was one that enabled him to deal with them in a comprehensive spirit, and to gain a real insight into their most essential features; and for this reason his work is in the main a possession for all time, though the more specific features of his doctrine have largely lost their interest. I think it very probable that the same may in the end be true of Hegel. It seems possible already to detect elements in his system that are merely of an accidental character, due to the special tendencies of his time or to his own more individual interests. But I believe that when all these are cleared away, it will remain true that he, more than any other in modern times, has provided us with a

comprehensive point of view, within which we may go on working at the special problems of philosophic study, with a reasonable hope that what we thus do will not be altogether in vain. It is at least one of the great merits of his position, that there is plenty of room in it for growth.

IV.—CHOICE AND NATURE.

By Edgar A. Singer, Jr.

1. *Method.* — In so experienced an age one can hardly beguile oneself into a sense of the newness of one's reflexions. It is with something of regret for a bygone freshness that Lucretius's eager lines come back to us :—

> "iuvat integros accedere fontis
> atque haurire, iuvatque novos decerpere flores".

Nor has the pleasant weariness of completed labours taken the place of the beginner's zest. We can count scarcely one question settled, one finished task : our philosophic inheritance is a tangle of opinion, to unravel which is a labour greater than all the rest. Yet if the past is to repay in enlightenment what it has cost in disillusionment we must *make* it teach us. This is our modern problem, and the nature of the task has, to some extent, dictated the method of its accomplishment.

The history of philosophy is itself a philosophy, and to develop its method has been the first interest of our century. Finding conflicting opinion, this philosophy has sought underlying motives, and giving play to motives, it has enticed conflict into contrast. Dwelling on antitheses, it has forced history to take on a dialectic form, and in expressing the truth grasped, has pointed neither to extremes of doctrine nor to "happy means," but to the continuous unfolding of the story. Thus it has made use of the very discord of opinion to teach the lesson of experience, and as part of the lesson learned has ceased to be anxious for the fate of its "last word". It is in the spirit of such a method that I would approach the old problem of the relation of Choice to Nature : it is because the problem is so old that I venture to attack it.

2. *Progress, Determinism and Tolerance.*—To begin as far back as we may : the more primitive the intelligence we examine, the more do we find it impressed with the caprice of detail in Nature, and the more ready does it show itself to see in this lawlessness the play of imagined choices. To

the savage,—yes, to the cultivated Greek (and perhaps to the larger portion of the civilised world of to-day)—it is not only fellow-man and fellow-animal that behaves in an unpredictable way, but the tossed divining stick, the trickling blood of the sacrifice, the tea-leaf floating in the cup. These seeming chances are interpreted as choices: they are given an oracular meaning, and are not one with that routine in which the stone always falls to the ground, the arrow always flies toward the mark. On the other hand, the farther back we go in any civilisation, the less room do we find set apart for the play of opinion. A statement is either true or false, an action good or bad; there is a vanishingly small region within which different interpretations of the same facts are allowed to abide together in peace. In a word, primitive thought is at once fanciful and intolerant.

Progress is understood gradually to invert this state of affairs. With expanding science the region of indeterminateness shrinks, with growing experience reflexion is forced to admit many interpretations of the same range of phenomena: choice vanishes from the midst of the Nature described and reappears in the function of description. Science and tolerance go hand in hand.

But our first satisfaction in this amicable relation between accurate knowledge and free interpretation gives way to a sense of confusion when we try to establish the line that divides the two domains. Science appears to be tolerant only of such beliefs as are incapable of being confirmed or refuted by its methods. (For the unwillingness of science to pronounce in favour of conflicting theories in the absence of a crucial test is not tolerance toward different beliefs, but an abstention from belief. Nor does science merely permit or advise such suspension of judgment, but commands it, frequently in terms that do not smack of tolerance.) Religious faith, moral conscience, æsthetic appreciation have claimed freedom from compulsion, and science has frequently admitted that its methods conduct to no conclusions respecting the spiritual, the good, the beautiful. But where these claims have won the day they have taken their stand on the ground of common ignorance. Science has indeed been their useful ally in forcing ignorance to recognise itself; but beyond the confession of insufficient evidence science cannot go and its so-called tolerance does not extend. Within the region which this confession affects, science, once more, can only abstain from belief: it is not freedom to believe but freedom to doubt that it champions, and in the face of doubt there is no more room for choice than in the presence of the most brutal fact.

Before those who really claim the right to believe in unsupported possibilities, science can only plead its inability to grasp their meaning. "Either," it says, "your so-called beliefs are conceivably capable of confirmation or they are not. If they are, they await the event to be confirmed or refuted, as my doubts await it to be resolved. If they are not, but pose as faith in bare possibilities, they escape all chance of destruction by abandoning every vestige of content."

So the tolerance of science toward parts of experience that lie beyond its ken is an empty concession. For the only regions to which it could apply turn out to be void, or else, after all, to be remotely within its own sphere. Choice of interpretation respecting Nature vanishes as completely as caprice within Nature,—unless indeed the choice resides within the bosom of science itself.

3. *Tolerance and Subjective Choices.*—If the tolerant consciousness were willing to accept the dictum of science respecting it, the history of philosophy would end in a frank empiricism. Tolerance would call itself scientific reserve, and the only choice remaining to us would be that of acting at a risk or abstaining from acting (equally at a risk), in the face of conditions whose outcome was veiled by our ignorance. (Such reactions have no interest for us here, for the decision made in unavoidable ignorance and forced upon us by the course of events can neither be wise nor foolish, and lacks the attribute of "oughtness" that we are investigating.) But to such empiricism the claimant to the right of free opinion has an objection that recurs again and again in the history of reflexion. "If," he retorts to science, "if every judgment were a bare statement of fact, then the weighing of its truth must, as you say, await the event respecting which the assertion is made. But there is an extensive class of judgments which do not pretend to be statements of fact, and whose truth rests on quite different grounds. It lies with the individual both to make these judgments and to make them true. Foremost among them are just these religious, moral and æsthetic appreciations of the world. Here the individual must be the final arbiter, and tolerance is more than a confession of ignorance, it is a declaration of independence."

Such is the doctrine sometimes called "indifferentism" and we must estimate its historical significance. But because religious conviction expresses itself but vaguely (when it does not, as in the historic creeds, actually make statements of fact) and because the cry for moral liberty may not seem quite sincere (for does it not also call for social laws?),

we shall confine our attention to the case of æsthetic appreciation. Here the following questions arise: Does the individual mind enjoy a freedom in ascribing beauty to the facts of Nature which is denied it in judging these facts themselves? Can the adjectives true and false be attached to the judgment of beauty at all? If so, what lies in the meaning of beauty that makes the truth of æsthetic appreciations so different in kind from that of plain statements of fact?

The first historic motives for a tolerant attitude towards appreciations of beauty are simple enough, being of the kind that express themselves in the old saw "*De gustibus*". You pronounce Mona Lisa beautiful: I call her plain—what is to be done about it? If it were a question of proportions we could appeal to the foot-rule; but that would leave the matter of the harmony of those proportions untouched. You cite Pater; I retort, "He is only a third individual". "But," you urge, "he is a judge." To which I may make one of two historic replies. The first defiant: "Who made him to be a judge over us? The individual man is the measure of beauty." The second humble: "I do not pretend to be a judge of beauty, I can only tell what I like".

According as one or the other of these replies is made, beauty is given one or the other of two meanings between which the concept has always oscillated. In the first case it is frankly identified with a subjective liking which the judgment "this is beautiful" confesses. In the second case it is admitted that one individual may be wrong, another right in his estimate of beauty: there is such a thing as "correct taste" and "experienced judgment," and in so far the appreciation of beauty stands on a footing with the estimate of size or the description of colour. We are less interested in determining which of these meanings corresponds to the place that the judgment of beauty occupies in a given culture than in asking what effect either would have upon our notion of the truth and error of æsthetic appreciations. And I think it will be seen that from neither point of view does the judgment of beauty possess peculiarities unshared by the strictest statement of fact of which science is capable.

For if, in the first place, only subjective liking is in question, there is no sense in which the avowal of such liking can be true or false unless it be the sense in which it agrees or disagrees with the facts of the case. If stress be laid on the subjectivity of these facts and their inaccessibility to any but the individual's own observation, it may equally well be pointed out that the whole structure of science is built of

just such individual observations. My micrometer reading is neither more nor less accessible to you than my liking for port wine or Beethoven sonatas. And, in fact, the historic outcome of the motives that lead one to say "Man is the measure of beauty" is the doctrine that "Man is the measure of all things". If this is not wrong, it yet does not in the least interfere with the construction of a confessedly objective science; neither, then, ought it to be urged against the objectivity of beauty.

It is not, however, for a theory of beauty that we are looking, but for an example of a judgment whose truth is constituted by the individual that pronounces it: if not the ascription of beauty to an object, then the avowal of liking for it, and if not that, then any judgment in which the subject seems to be sole arbiter of the truth of his own statement. So that we may at once take the highest possible ground and ask whether any expression of opinion can refer to a "last seeming" so completely subjective that the "subject" has the right to say what he will about it without risk of error.

The historic pursuit of such a type of judgment conducted the Sophists to "immediate certainty" as furnishing the final illustration. Only, it may seem odd that we should here present such certainty as a type of judgment which, all in being absolutely true, is still absolutely free. Is it not the proper historic function of this judgment to stand for that which is absolutely forced upon the subject as a bare fact of experience? I answer, the paradox goes with the paradigm, for those philosophers who with a very temerity of caution confined their estimate of truth to immediate certainty, also furnished to their successors the "horrible example" of completely wayward thinking. Nor is this an historic accident; it belongs to the nature of the "immediate" to present itself in the guise of just this contradiction: in fact it is the disorder from which it always suffers and to which it at last succumbs. For exactly that inaccessibility to more than one point of view which is supposed to shield "immediate certainty" from the danger of contradiction also robs it of the chance of confirmation. The assumption that the case can never occur again *does* make it quite indifferent what judgment is passed on it. But a little reflexion will show that the only instance in which $+a = -a$ is that in which $a = 0$: the only absolutely free judgment is the meaningless one. Upon Heraclitus follows Cratylus, wagging his finger in mute irony, and upon Protagoras follows Gorgias, pitifully complaining that nothing

is, but that if anything were we could not know it, and if we knew it, could not tell.

Meanwhile the "subjective" and "immediate" must be given some place in experience, and they do seem to carry with them certain exemptions from outside criticism. The humility that makes no pretension to "knowledge" of beauty, but contents itself with an avowal of "liking" must yet stop somewhere. It would take it to be a poor return for its yielding disposition did the masterful critic venture to doubt the genuineness of the liking. "What impertinence," it would say, "to tell me that I do not know my own mind." And yet it may be that the critic's attitude is impertinent rather than meaningless. When one is young one feels more secure in the secret possession of a unique personal experience than when, after longer contact with life, one has formed the habit of "seeing through" others and has had the shock of being "seen through". And I am not so sure that the experience of philosophy has been different from that of each individual. Gorgias found that the subjective did not thrive on an *incommunicado* regime, and it is not unnatural that Hegel should insist on the part played by other individuals in forming the nature of the self's most intimate possessions.

However that may be, I think the dialectic of history has sufficiently emphasised the relativity of the distinction between the subjective and the objective. In so far as a judgment lays claim to truth, in so far does it pretend to have grasped an objective reality, and in so far must it be capable of confirmation or refutation from an indefinite series of other points of view. The average of these observations (though never quite static) is the only result to which either the connoisseur of beauty or the scientific investigator can point as to the fact he is in search of. In the comparison with such an average the truth of the "subjective appreciation" appears—its freedom disappears. That which has led history to separate the truth of a judgment of beauty from that of a judgment (say) of size is the relatively large "variable error" of the former, which masks the nature of the average. We have not yet found a type of judgment that does not involve a question of fact, and statements of fact are capable of a continuous treatment throughout the whole range of experience.

What then is the outcome: do we relapse into the empiricism against which the protest of tolerance is directed? That depends upon the way in which the conclusion of empiricism is stated. If, as against the tolerance we have

been examining, it urges that the answer to every meaningful question must be wrung from experience and hence must involve a question of fact, I think history forces us to accept the dictum. So that if any class of judgments involves the exercise of a choice, it is because the statement of fact itself depends on choice. But if in insisting on the necessity and sufficiency of the "scientific method" empiricism views this method as excluding all choice on the part of the describer of Nature, it goes farther than we are yet justified in following it, and its conclusion must be tested by an examination of the momenta that contribute to the growth of science itself.

4. *Science and Objective Choices.*—The form that our present question must take is determined by our past admissions. We have accepted the ideal of science: the image of Nature with which our description presents us must be that of a completely determinate process, and we have agreed to admit no choice or caprice within the phenomena of Nature which would set a limit to the pursuit of this ideal. We have asked whether in some of its aspects a determinate Nature might not admit of more than one description. And we have concluded from the continuity of the concept of truth that any choice which may belong to the function of describing must be traceable in all the ways in which this function could be exercised—in the scientific formula as well as in the ethical or æsthetic appreciation. So that our final question is this: taking scientific description as typical of all description, is there only one, or are there more than one way in which the scientist may present Nature as a uniquely determinate process? If more than one, and the scientific describer is constantly called upon to choose from among several, is his selection capricious or can we discover a principle by which it must be guided if his description is to be true, the Nature it portrays real?

Our first impression of the scientist is of one thrust into the midst of Nature to observe and to record. Nature flows by him as a stream of facts and it is for him to map the currents: the laws thus formulated are no less facts. "Die Natur ist nur einmal da" and he whose sole function is to tell what is "there" can arrive at but one result: it in no wise rests with him what this result shall be.

In this mood we think of the scientist as coming in possession of a given fact by a single observation, and as recording his observation in a categorical judgment. He measures a rod and then announces, "This rod is 1 cm. long". The laboratory observer himself, however, does not

view the matter in this way. What he calls a fact is never the result of a single observation, and his record does not take on a categorical but a disjunctive form. "This rod," he will say, "is $(1 \pm \lambda)$ cm. long": *i.e.*, its length is either $(1+\lambda)$ cm. or $(1-\lambda)$ cm. or lies between the two. It is not merely that the scientist is cautious and repeats his observation "to make sure"; but that he is actually without means of defining the "real fact" he is in search of save in terms of an average of observations with a zero "probable error" attached. I need not point out that a zero probable error is from the very nature of its formula unattainable in a finite experience. Hence the probable error and the indefinite series of points of view whose variation it summarises is part of the scientist's meaning when he speaks of a "fact". The disjunction of ignorance which the probable error expresses in a quasi-categorical form is essential to any image of Nature that science can evolve.

I should like to dwell on the wealth of this concept of "probable error". If I am not mistaken all the disjunctions of ignorance at which the stages of scientific progress pause could be put into this form. Were we suspended in doubt between a corpuscular and an undulatory theory of light? Then it was because the probable errors of our estimates of the velocity of light in media of different density overlapped. So, too, the probable error is the means of defining the region within which certain "neglects" that science practises are permissible. If we analyse the meaning carefully, the sense in which the "law of inertia" which seems to refer to a body "left to itself" may none the less be applied within a world in which no body could be "left to itself" will be seen to depend upon the permissible neglect of errors of detail which fall within a "probable error" of result—an error whose magnitude is independently fixed.

I mention these matters for two reasons. First, because since science must always present us with disjunctions, it seems always to be leaving us an alternative which makes a choice not only permissible but imperative. And some recent philosophers have held that the psychological factors that determine the choice of the individual scientist at such junctures may have a permanent influence on "the result".[1] Second, because other philosophers have contended that since such axioms as Newton's "law of inertia" cannot be literally illustrated in Nature, therefore science "abstracts" from Nature and gives us, instead of a true image, an "ideal con-

[1] James, *Will to Believe.*

struction" on which it would be unsafe to form our *Weltanschauung*[1]. But when we see that all the disjunctions with which science presents us are really of the nature of that "probable error" which must attach to any statement of fact, does it not seem that we have already taken account of these "psychological factors"? Are they not among the very causes which lead to variation between observers and of which the "probable error" gives a summary statement? They no doubt play their part in the drama of science, but they belong in the chorus. For the rest, I am here only stating in another form the view already accepted that the disjunction of ignorance is no ground for a play of choice, but only for a wavering of doubt. And as to the "abstractions" of science, I can only find suggestion of them in the careless abbreviations of the scientist and in the unfair interpretations of the critic. Science may be an "ideal construction" but its ideals do not involve the neglect of facts.

I must leave this subject of the "probable error" which has helped us to pass beyond the impression that a statement of fact is the categorical utterance of an individual observation and enabled us first to detect its disjunctive character, then to trace in the result the contributions of a society of observers. Even now we have not exhausted the meaning which a simple statement of fact has for the scientific observer. If the "probable error" is of the nature of a disjunction, so the concept of the "constant error" points to a *condition* involved in a statement of fact. "This rod is indeed $(l \pm \lambda)$ cm. long, but only *if* the temperature be t degrees, the stress f dynes, etc." Omit these conditions and the statement is meaningless, misrepresent them and, however faithfully it may record observations actually made, it is false: it is affected by a "constant error".

From this it would follow that the very simplest statement which science can make about Nature—that from which all its generalisations start, the record of an individual fact—must take on a hypothetical form. Yet it would seem that this much of the naïve attitude towards science from which we started must remain true to the end: namely, that the account of Nature which interests us must finally be expressed in categorical (or quasi-categorical) judgments. We want to know what has happened and most of all what will happen, and cannot remain eternally satisfied with the knowledge that if *a* should come about then we must look out for *b*. And since science undertakes to satisfy us on this score, since

[1] Ward, *Naturalism and Agnosticism*.

it does make categorical predictions, the question naturally arises: What has become of the conditional clauses?

The answer is not far to seek. Neglect such conditions as cling to every statement of fact science cannot without loss of meaning: absorb them in the categorical judgment itself it can and does. And that by a very simple device: the setting up by convention of so-called "standard conditions". Now as regards these conventions there are several things to be noticed. First, they are said to be "arbitrary," which does not mean that they are unmotived and capricious, but only that they result from a choice. Second, this choice is social, not individual, and constitutes the "universe of discourse" within which the individual judgment is meaningful and true. Third, this choice selects from among several alternative accounts of Nature each of which presents Nature as a thoroughly determinate process. Finally, no categorical account of Nature, *i.e.*, no image of Nature "in the concrete," can be given which does not embody a series of such choices.

But in spite of the fact that the Nature we point to with hope or with fear is always a Nature described, it is generally felt that there is a difference between Nature-in-itself and the description we give of it. However completely the choices we have mentioned may be embodied in the "universe of discourse" yet this can never be identified with *the* Universe: the conventions are purely "nominal". "Il y a le nom et la chose," says Montaigne, "le nom ce n'est pas une partie de la chose, ni de la substance: c'est une pièce étrangère jointe à la chose, et hors d'elle".[1]

Now it is quite true that the choices and conventions of which we have spoken are in the nature of definitions. In the example of length we were merely watching the growth of the definition of length to meet the needs of a more refined description. So that we may pass at once to the general question of the definition or, let us say, of classification. Then it will be seen that the motives which inspire the preceding paragraph are those which lead Kant to treat definitions as analytic judgments and, being such, as essentially different from any other *a priori* factors of knowledge which may really help to "constitute" experience as we know it.

There is no doubt that this insistence upon the triviality of definition and classification in our system of knowledge strikes a sympathetic chord in the common understanding,—one which responds in terms of such saws as "Soft words

[1] Montaigne's *Essai* "*de la Gloire*".

butter no parsnips" or the poet's line "A rose by any other name would smell as sweet". At the same time we must not forget that the very opposite point of view has received historic expression: *e.g.*, in the mot "La science est une langue bien faite". Now, as has been said in the introductory paragraph, the whole history of philosophy is a dialectic growing out of just such antitheses as the one before us. And generally we have learned that the contrast arises from a breach of continuity to re-establish which is to grasp the truth of the situation. Just so here: it is no doubt always possible to distinguish between the facts of Nature and a classification to which they are subjected. If it were not for the indifference of such facts to the various ways in which they could be classified, the problem of arrangement would not present that element of choice which we have insisted upon. But to be indifferent toward certain alternative classifications is not to be independent of all classification, and it must always be equally possible to show that these facts presented in Nature are themselves the resultants of finished classification: if they were not they could not be "presented". Those whose attention is attracted by the factual aspect of Nature fly to one limit: "we do not really know Nature until we get at the 'solid' facts, untainted by arbitrary arrangement and eternally indifferent to the way in which we classify them". Those who recognise the important part that classification plays in the final image of Nature rush to the other extreme: "knowledge is nothing but the game of arrangement". But if there is one thing that the dialectic of history seems to have established more firmly than another it is that, not at the "limits," but in the continuous series which defines them, lies the truth. Whatever is required to account for the way in which one of its stages follows on another is essential to the nature of experience. And since at any stage of our growing knowledge at which we try to tell what Nature is, the describer is presented with a choice, and since no stage can be found which does not embody past choices, I take it that this series of choices is involved in anything we do or can mean by Nature.

5. *The Choices of Science and Their Truth.*—It is not well that a philosopher should be let off with a generality. If he has really caught a fragment of the truth, let him show where it fits into the scheme of experience. I shall try to do this with respect to the choices of science by showing where in the history of science such choices have been exercised, and how they have gradually moulded the meaning

that we now attach to the term Nature. But to illustrate systematically would be to write a history of science, for we have said that such choices must be exercised continually and work gradual transformations. The best that can be done in brief space is to look for the most striking instances, and to lay them before the reader with little comment. In each case, too, we may answer a question raised at the beginning of our search into scientific method by pointing out that these choices have not been exercised capriciously, but according to a given principle. Science has regarded one alternative as preferable to another and has treated the ground of preference as a ground of truth. And when we have finished I think we shall see that the exercise of such choices is the only factor in experience that has any claim to be called *a priori:* whether or not we retain for them the term analytic, we shall at least have grasped all the motives that have led to the doctrine of *a priori* synthetic judgments.

Since we have stated the function of choice to be exercised in the business of classification, we naturally turn for our first illustration to the science in which the problem of classification has received the greatest recognition. The day is not long past when the main question of biology was that of "true orders". The biologist of this time felt that it had a meaning to ask whether a given scheme of classification were true or false. "I will not give my reasons," writes Linnæus, "for the distribution of the natural orders which I have published. You or some other person after twenty or fifty years will discover them and *see that I was right.*"[1] It is the language of the "realist" that looks for classes *in re*—a language that we still speak when we distinguish between "artificial" and "natural" systems of classification. And yet it is clear that there are many consistent classifications to which the facts presented to Linnæus were susceptible.

The period that witnessed this struggle after "true orders" culminated in the genetic classification of evolutionist biology. Is this a truer arrangement than any other consistent grouping that could be devised? I only point out here that the way in which a classification is made determines the next question that the scientist asks. The question may be "put to Nature" and receive an empirical solution; but it cannot be answered until it is asked. Now the peculiarity of the genetic classification was that it led to a form of question which did not apply to biology alone. Other principles of division would have been as consistent with the facts *given*

[1] Romanes, *Darwin and after Darwin*, i., 26.

to them, but respecting the facts *resulting* from them we could not have asked: "Are they the results of development?" The search for the "mechanical factors" of evolution would never have troubled us, nor engaged us with its broad promise of unified sciences. And yet it is the insight into just these analogies which, as the patient Kepler said, leads us into the arcana of Nature. When we ask what Nature *is*, it is in terms of such insights we are answered. It is in this sense that a classification can be "true to Nature," it is in this sense that classes can be said to exist *in* Nature. One is all the more a realist for being idealist enough to see in Nature the embodiment of choices.

Let us turn to another instance and another science. We shall see the "analytic" aspect of choice gradually slipping away; for in the case we now take up historic science did not even notice that its problem had an analytic side, but supposed itself to be facing a bare question of fact. I suppose most will remember to have been taught that modern astronomy dates from Copernicus's "discovery" that the earth revolves around the sun and not *vice versa*. Huxley speaks of the old "geocentric system of astronomy with its eccentrics and epicycles" as "an hypothesis utterly at variance with fact".[1] And it is common enough to hear the Church of the period upbraided for flying in the face of facts.

Yet when one's attention is called to it, I fancy no one will fail to justify Mach's contention that the Copernican change of standpoint was only a change of standpoint and raised no question of fact.[2] The paths of the planets are necessarily describable with respect either to the sun or to the earth as origin. The question of the origin of co-ordinates is a question of interpretation, and it is decided in favour of relative simplicity. The "truth" which this advantage seemed to impart to the Copernican point of view appeared to Huxley to have the same cogency to force acceptance as has a fact to compel belief. Hence he regarded the question of origin, not only as one capable of a right and wrong answer, but actually as a question of fact.

I might recount the sequel to this historic incident, how the change of origin effected by Copernicus made Kepler's questions possible; how the resulting laws made it possible for Newton to ask the same question of the moon that Galileo asked of falling bodies and Huygens of a ball swung

[1] *Progress of Science.*

[2] *Mechanics in Its Development*, 232.

on a string; how these general views of motion suggested the question: is the whole system of visible motions a self-repeating cycle?—and how, on the assumption (afterwards empirically verified) that it is not, the concept of motion is included by Kant and Laplace under that of growth: until at last our image of Nature includes an evolution of mechanical processes, as well as the mechanical processes of evolution. Each stage would be seen to depend upon certain choices of arrangement, and a history of science written with these in view would be the realisation of Hankel's ideal: "Die Geschichte einer Wissenschaft kann selbst Wissenschaft werden".[1]

But it is better to have exhausted the significance of a few illustrations than to have squandered many. I have been laying emphasis on the *a priori* part of our thinking, and the reader may have felt that justice has not been done to the *a posteriori*. Let us put the feeling into a question. The results of Kepler and Newton led to the discovery of a new planet whose behaviour was in accordance with their predictions. But suppose accident were to lead to the discovery of another which did not conform (say) to Kepler's laws, should we not reject those laws? Are we not then dealing with descriptions of Nature whose truth reduces to an agreement with the facts?

That every judgment capable of truth or error *involves* a question of fact I not only admit but have been at some pains to defend: that it *reduces* to a question of fact I cannot see. No doubt we should reject a scientific law in the face of an exception; but the form in which we should express our new knowledge is not uniquely determined. Our first step is to replace a universal affirmative proposition with an exceptive; but it is not our last. And why? The determinateness of our image of Nature is not interfered with by stating a law and its exception. "All planets except X obey a certain law and X obeys another": the space distribution of planets at a given instant of time is determinate enough. What we have lost is the simplicity

[1] I should like to have included among these illustrations the much disputed problem of geometrical axioms. For I think the question as to what experiment proves respecting the truth and the error of these axioms depends upon what we will let it prove. If they are *a priori* they are so by command, and it is for this reason and not because of a happy chance, that the true axioms are the simplest. The matter, however, proved too subtle to be condensed into a paragraph. If the reader is interested in this point of view I may refer him, as to the treatment most closely in sympathy with it, to Poincaré (*Rev. de Met. et de Mor.* 1895, 631; 1899, 251; *Monist*, 1898, 1.).

of our formula, and it is because we choose that our description of Nature shall be simple, that we reject a formula which permits of exception as not representing a law of Nature. We assume that the description of this determinate flow of facts we call the course of Nature is capable of complete expression in universal judgments. What right have we to proceed on such an assumption? Is it that we detect on the part of facts an eagerness to oblige? They are not noted for such complaisance: philosophers have even been known to call them "brutal". Is it not rather because we have the remaking of the facts within our power? And this by reconsidering an old choice of classification: in the resistance that facts offer to our desires is always to be detected the opposition of our old choices to our present needs. It is for this reason that the search for a universal formula for Nature is always bound to succeed.

For example, Newton's law of universal gravitation is actually subject to many exceptions. Not every body of matter attracts every other with a force proportionate directly to the product of the masses and inversely to the square of the distance between their centres of gravity. This is only true in case the bodies are without electric charges, do not possess magnetic poles and have other negative properties. So far science has been content to state our physical laws in terms of exceptions, and instead of a single formula for Nature we have several. The image of Nature resulting is determinate enough save for "probable errors". But modern analytical mechanics is not satisfied with mere determinateness: it demands simplicity. Consequently we find it throwing the mass of phenomena into a single formula—the generalised Hamiltonian principle or the generalised Lagrangian equations.[1] It is not pretended that this is more than a "formal" transformation of *all* the formulæ of physics, for it does not really reduce the number of "dimensions" (since the same term in the formula has different though analogous meanings within different classes of phenomena) and it introduces no new determinateness. For that reason such transformations must always be possible. But what is the next step? By treating the system of bodies *as though* it included concealed motions we manage (perhaps after the manner of Hertz) to express the different determining properties of the bodies in terms of the velocities of these motions. Now we have really reduced the number

[1] The most satisfactory account of this process appears to me to be that given by Helmholtz, *Vorlesungen über die Theoretische Physik*, i., 2.

of dimensions to mass, space and time, but we have not reduced the indeterminateness due to "probable errors": we have introduced no new observation of facts. And what does this hypothetical "*as though*" mean? For a system to *have* a certain constitution, and for a system to behave *as though it had* a certain constitution, mean the same thing: the moon behaves as though it had another side. All that we have done is to introduce a new classification which has the conditional flavour of all classifications, a flavour that only fades away as the classification ceases to be new. We no longer state our law in terms of "all bodies" in Newton's sense, adding exceptions that apply to different *kinds* of bodies; we state our formula in terms of mass, space and time. The kinds of bodies and motions are characterised by the different degrees in which these dimensions belong to them, and Newton's view of the situation appears as a special case, along with its exceptions, the other special cases. Can the facts obstruct such progress? I think not: a classification that possesses maximum simplicity must always be possible, and if at any stage new observations lead to exceptions, these do not *force* a rejection of old choices, but they *invite* it. "The order and regularity of the phenomena we call Nature, we ourselves introduce into them, and we should never be able to find it there had we not first put it there." Thus did Kant from a somewhat different point of view express much the same thought.

6. *Nature, Choice and Will.*—It would seem, then, that when we wonder at the order and simplicity of Nature, we wonder at our own handiwork as Nature builders—"The heavens proclaim the glory of Kepler and Newton". And if, with Omar, we find the scheme of things "sorry," can we not "shatter it to bits and then remould it nearer to the heart's desire"? We not only can do so, but constantly are doing so—it is the function of science. Only, the "heart's desire" must not be unprincipled. In the historical illustrations we have seen that the choice exercised by the describer is regarded as true only in so far as it abides by a certain principle, which we might variously call the principle of maximum simplicity, economy or unity. It remains to be shown *why* this choice should be regarded as true.

In the first place it will be recognised that the demand for maximum unity expresses a strong intellectual need. But it is not the only need of our nature, it is not shared by every one,—as witnesses the attitude of the Church toward Copernicus. And even supposing it the predominant need, why

should it not determine the utility rather than the truth of our description of Nature?

We have seen that the choices which play a part in the constitution of Nature are exercised in the function of classification. Now there is only one sense in which we commonly apply the term error to a classification,—it is that which we illustrated in the case of "constant error," that which permits us to speak of a wrong definition. Error in this sense must always involve the contrast between an individual and a social choice. If then we have a right to gratify any need of our being in exercising the choices we have been considering, it must be because the need is universal,—it is a principle that expresses a universal will. But there are many needs whose wide distribution throughout society we can discover by observation. If the criterion of universality is to be empirical, there is no reason for satisfying the intellectual rather than the æsthetic or "spiritual" needs, —and this is the position taken by some modern writers.[1]

But all through our study we have seen that the will which is reflected in a true image of Nature is not expressed in a mere *consensus gentium*. We justify Copernicus although he was a minority of one: we condemn the Church that stood for the voice of the people and the voice of God. The will to which Copernicus appealed was broader than his age, —and the will we are now in search of must be sought *sub specie æternitatis*.

The search for the absolutely universal will is one that has been attempted before,—at least the method of search has been defined. For if we are not to stop at an empirical generality but to find the principle of choice that would be exercised by all describers in the face of all possible experience, it is evident that we seek the principle without which no description, no experience and, consequently, no Nature is possible. We are faced with the old problem of deduction as it appeared to Kant. Our demand for a universal will is not a little like his motive for seeking "categories," and we may rest satisfied with expanding Kant's method to fit our needs.

The conclusion of Kant's deduction is that the trait of experience without which there could be no experience, and yet which does not belong to an aggregate of bare facts, is unity; and in this unity is reflected the activity of a describing consciousness. We have arrived at the same conclusion in our own way. But Kant's attitude toward experience

[1] James, *op cit.*

leaves it, in several respects, static. Its movement is a flow of facts: the "forms" into which these facts fit are ready-made categories. As a result the forms of thought "constitute" experience in giving to it its unity; but the evolution of unity, the struggle after maximum unity, falls under merely "regulative principles". Thus a permanent separation between the *truth* and the *value* of description is allowed.

It may be said, I think, that the outcome of post-Kantian thought is a transition from a static to a dynamic attitude toward experience. Its "flow" is no longer a mere flow of facts, but an evolution of interpretations. It is such evolution that Hegel is constantly dwelling upon (*die Bewegung*). From this point of view, it is not the unity of our thought but our thought's struggle after maximum unity that constitutes experience what it is. It is this desire for maximum unity that we struggle to satisfy and the gratification of which constitutes the truth of an interpretation. The desire is, of course, a fact of our experience, but it is to be distinguished from other empirical needs in that the right to gratify it is to be deduced from the meaning of experience itself, within which it is the absolutely universal principle of choice. It is this that makes maximum unity a true not merely a useful, a constitutive not merely a regulative principle. I need not point out that all our illustrations have been so many scenes from the drama of human thought struggling after maximum unity in the building of the world of Nature.

But now if the choices that are not determined by fact are determined by the principle of maximum unity whose claim to truth depends upon its necessity to the very meaning of experience, has not individual liberty to satisfy individual need completely disappeared? And if so, what has become of the illustrations cited in this very paper in which the individual,—yes, the larger part of society,—rejected this universal principle? The Church opposed the astronomical scheme of Copernicus, and yet the Church not only meant something by its attitude but still continues to live and to function.

It would be interesting to show the difference between the sense in which the "unity of apperception" was felt by Kant to be a universal and necessary condition of experience, and that in which maximum unity represents to us the will of a universal society. But I must confine myself to an example which will tend to show the kind of liberty an individual may possess to resist a law without which the society of which he is a part and to which he owes his own nature could not exist. I take the specialised type of experience

we call "life". Life is what it is because the living being is essentially a struggling being. From this it does not follow that every living being enters consciously into the struggle. There are the fortunate ones who toil not neither do they spin, and yet continue to live. To them struggle may seem a mere accident of life and not its essence. But we must see that they could not thus live were they not part of a society which is a struggling society and heirs to the ages that were ages of conflict. They are made in the image of the surviving fittest, and lazy as they may wish to be they cannot give up all the functions made necessary by the struggle and continue to live. So far as they do give up the struggle, they do *give up*, *i.e.*, the very definition of their apathy is couched in terms of the strife they shun, —and in shunning, recognise.

So with experience as a whole: the individual has a certain liberty to decide untruly. Whether from indifference (the apathy of surrender), or from pride (the self-will of a romantic genius that a Nietzsche expresses), or from prejudice (the bigotry of the Church in the preceding example), history is full of instances of the denial of the will to experience. But this denial carried to the limit means extinction, and carried part way means partial stagnation: experience may die by inches. In all cases its essential characteristic is denial or revolt, and that recognises the nature of the law against which it revolts. It need scarcely be remarked that this individual may be a very large group. The human race may for ages be lethargic. But the dark ages contain the germ of an *Aufklärung* and moreover are not themselves completely without light.

From all this the relation of Nature to the individual desire follows of itself. We have represented the individual as faced with a group of facts; but not of bare facts, for in so far as these have even enough meaning to be pointed out as facts they bear the traces of description with all that this implies of past choices. So that at no stage is he presented with a situation so purely factual that it cannot be altered by re-interpretation. Observation has, of course, an important place in his life: but his experience is not increased by bare additions. The real importance of observation is to serve as the stimulus to new interpretations. These interpretations we have seen were indeterminate save for a principle of choice not yielded by the facts themselves. Yet this choice is not the individual's own; but that of the society to which he belongs. Nor is this society that of his day and generation, for that is only a larger individual, but the universal

society to contradict whose will is to destroy the meaning of experience. Such a will dictates a principle of choice that gratifies a desire which an individual may well possess. In so far, then, as the individual desires what all must desire if they would have experience, Nature as embodying our interpretations must yield him satisfaction. But in so far as the desire is purely individual, Nature offers no guarantee that it shall be gratified.

As the type of universal desire we have taken maximum unity—a rather cold, intellectual one, it may seem. It would be interesting, did space permit, to consider the question "Are not the demands for the goodness and beauty of our world involved in this?" It may be that the concepts of unity, goodness and beauty are more closely allied than their frequently contradictory expressions would lead us to suspect: history is full of attempts to identify them. The old scholastic formula "Quodlibet ens est unum, et verum et bonum" may be profoundly true. For the present, however, I must leave this question untouched.

V.—CRITICAL NOTICES.

Foundations of Knowledge. In Three Parts. By Alexander Thomas Ormond, McCosh Professor of Philosophy in Princeton University. London: Macmillan & Co.; New York: The Macmillan Company, 1900. Pp. xxvii., 528.

The author of this lengthy treatise has hardly taken sufficient care about the form in which he has put before the public what is clearly the result of much thinking and of a serious and laborious effort towards a constructive philosophy. Misprints are numerous, and only six have been noted in the list of "Errata": others quite as glaring have been overlooked. Thus, of three words in Greek type which occur in the volume (without any special necessity), one is wrongly accented (θέος on p. 10), and two are without accents ("λογος from λεγω" on p. 260, and also in the index). Some other Greek words are given in Italic characters. Among these we find "*pon sto*" (p. 105). To St. Augustine is ascribed a treatise "Contra Academicas" (not italicised, p. 333). There are misprints in the titles of the works of M. Fouillée and M. Tarde which are referred to on pages 81 and 291. (M. Fouillée's name is put right in the "Errata".) Other examples are "Loyd Morgan" (p. 69), "Tyler" (for Tylor, on p. 427), "*Schien* or illusion" (p. 381), "post-Schenpenhaurian philosophy" (p. 227). In "the relative and infinite world" (p. 413), "finite" is probably the correct reading. There are many strange, and one might think unnecessary, innovations in language, *e.g.*, "posit" (as a noun), "devoidance," "mergence," "finitation," "judgmental," "mediational," "unmediable," "freedomist," "volistic" (a word which seems to suggest a philosophy among the field-mice). Some novelties are introduced with an apology, *e.g.*, "relatived," "pulsion". Others are indeed sanctioned by the liberal canons of the *Century Dictionary*, *e.g.*, "trialism," "outer" (as a verb), "revelatory". On page 105 we find: "The child brings the spoils of its excursus back to the home treasury," which is at least an odd expression. "The knowing subject begins to have an awning (*query = Ahnung?*) that," etc. (p. 116). "The perception of time is more erudite than that of space" (p. 129). "The element of each is some *minimum visible* or appreciable" (it is printed thus, on p. 136; one is uncertain whether it is meant for English or Latin). "This would not only defecate mathematics, but would also leave

physics in a bad way" (p. 321). This would seem to suggest that "defecation" does harm.

The punctuation is of a kind that does not always help the reader. Single commas are interpolated between nouns and their verbs, between prepositions and the nouns they govern. Thus on page 466: "Now, mechanism as thus far conceived, is a relative conception". This method of punctuation seems to be applied on system. In the footnote to page 521 there is a reference given as follows: "Chap. viii., Grounding of Relative Conceptions—Theme, Mechanism, and Teleology". Ambiguity is also caused by carelessness in style. Thus on page 490 we have "direct stimulation of the transcendent other," there the "of" must apparently be taken in the sense of "by". "It" and "its" are several times used in a way that gives trouble to the interpreter. Thus: "We have seen that at various points in experience the transcendent is involved, and we have pointed out in certain connections how the transcendent leads to the formation of intra-experiential concepts and principles which are necessary for its reduction to unity and stability" (p. 356). "Its" here must be referred to "experience".

Metaphors abound and are not always kept from mixing. "Through the interpretation of Sterling (*sic*) the pulsating heart of the Hegelian dialectic was projected into the field of English thinking" (p. 11). "The concept of time as the incessant flow of discrete pulses" (p. 142. The "bull" here seems intended to lift us over a difficulty). "The vitals of Kant's doctrine are to be found at the point of Hume's greatest blindness" (p. 184). "The notion that changes are not without anchorage, but that somewhere in our world there is something that will shed light on their origin, and thus clothe them with a degree of rationality" (p. 209). But more startling than such kaleidoscopic imagery, is the etymology suggested on page 480. "The seeing eye [of feeling] is more or less suffused with a mist of emotion which impairs its power of clear conceptual definition. The apprehension that is effected in such an organ may well be called mystical, and we find here perhaps an important linguistic motive for the selection of the term by which this type of experience is designated." It is a pity that some would-be "mystics" do not know, and learn from, the true etymology of the name.

The words "will" and "would" are constantly used, instead of "shall" and "should," in a way that makes even a Scotsman shudder: and yet it cannot be said, in excuse, that the word "shall" is simply boycotted, for it is used some six times correctly in 500 pages, it is once used incorrectly instead of "will," and twice where either word might have been employed. However important the message a philosopher has to deliver, he might take some thought for the convenience of his readers and show some respect for the language in which he professes to write.

To pass from the form to the substance of the work—Prof. Ormond's aim, as stated by himself (p. 518), is to prove (1) "that

the world is through and through, experience" [the punctuation is his own], and (2) "that the world is through and through, rational"—a conclusion which looks very like what Prof. Ormond would call "Hegelism," but which is reached by a method which he clearly considers to have more affinity with what he calls "Kantism" and which is made to fit in with what on the same principle should be called "McCoshism". A passage from the "Preface" may be quoted as indicating the writer's method of treatment: "While the work aims to be broadly experiential in the sense that the notion of experience is to be regarded as all-comprehensive, yet the application to it of the term empirical in any narrow or partisan sense may fairly be resented. For as regards the ordinary issues between empiricism and rationalism or intuitionism, they are simply transcended by the inclusion of reason and intuition among the functions of experience; for it is clear that experience cannot dispense with intuition, and it is no less obvious that the supreme intra-experiential test is that of rationality." Prof. Ormond's attitude to Hegel is expressed in a somewhat oracular passage: "What we have maintained is that no concept of the absolute is adequate to a first-hand deduction of the nature and content of the finite. In this we split with the thought of Hegel, but we are perhaps anticipating the truer Hegel in our contention here that though the organ of finite experience must be our guide in the first stages in the discovery of content, yet in order to reach a final construction, Virgilius must give way to Beatrice" (p. 470). [The word "anticipating" is puzzling, unless there is a Hegel yet to come: and why *Lat.* "Virgilius" (and if Latin, why not "Vergilius") along with *Engl.* or *Ital.* "Beatrice"?] Towards Kant Prof. Ormond adopts a patronising tone. "In the transcendental notion of unity," we are told, "Kant has in fact stumbled upon our category of unity as developed in the æsthetic consciousness. . . . We are in a position to reach a more satisfactory result" (pp. 245, 246). Yet on page 125 we find the statement "that everything arises in experience" made as if it was something that Kant had not held. It seems doubtful whether Prof. Ormond has ever realised what Kant's problem really was. He complains that "Kant rarely, if ever, takes psychological ground" (p. 125); but though (on p. 19) he speaks of epistemology as distinct from "psychology or any directly historical science," he seems to regard a genetic account of how experience grows as supplying a sufficient epistemology. After a short discussion in "part i." of "the ground concepts of knowledge," he proceeds in "part ii." to treat of "the *Evolution* of the Categories of Knowledge"; and it is there that he criticises Kant's Transcendental Æsthetic and Analytic. Now it is of course a tenable position—at least it is a position that has been held—that we can have no epistemology over and above what genetic psychology can furnish; but, if Kant's distinction between a criticism of experience and a psychological description of it is to

be put aside, some explicit justification for such procedure should be given. Kant should certainly not be criticised as if he had made no such distinction. Prof. Ormond makes, indeed, a valid criticism on Kant in saying that he failed to distinguish with sufficient clearness between presentative and conceptual space (and time). But he goes on to treat the fact that the mathematician is dealing with conceptual space, as if that fact of itself solved the problem with which Kant was concerned. Now (1) if we are giving a genetic account of the evolution of mathematical conceptions, it will not do to *begin* with the conceptual points, lines, etc., of Euclid. A psychological account of our way of thinking of space should surely take note of the fact that, before Euclid, the Pythagoreans (like children of to-day and empiricist philosophers) believed that geometry dealt with points which had magnitude (*minima visibilia*), etc. It was only the criticisms of Zeno the Eleatic and the philosophy of Plato which led later mathematicians to the purely abstract and conceptual view. (2) Prof. Ormond says "it is found that the space yielded by mathematical conception is a space capable of empirical determination" (p. 141). But this is just where Kant's problem *begins*. Kant sees a difficulty where Prof. Ormond is content to say "it is found". What entitles us to determine experience *a priori* (*i.e.*, independently of experience) in the mathematical sciences? Prof. Ormond says: "The mathematical point has nothing in common with the unit of presentation, nor have the lines and surfaces of mathematics anything in common with the presentative lines and surfaces except what they acquire through motion. It is through motion that the mathematical intuition gradually achieves an empirical result." *How* the motion of a purely conceptual point, which must be a conceptual motion, can make the transition to a perceptible point or line, Prof. Ormond nowhere explains: and if this miracle were explicable, the necessity of mathematical judgments as applied to perceptual experience would still not be accounted for. The conception of the line as a point in motion, of a surface as a line in motion, etc., is a purely modern way, and a highly instructive way, of conceiving abstract spatial relations; but long before any one had thought of it, the Greek geometers were able to determine experience *a priori*. Kant's problem arises on any theory which allows the necessity of mathematical judgments. What gives *objectivity* (*i.e.*, validity for all minds like ours) to the results of our mathematical thinking? Throughout the whole of Prof. Ormond's volume there is no analysis of the conception of objectivity. The term "objective" is constantly used as if it were sufficiently explained by the most elementary distinction between subject and object in any cognitive act.

Just as our knowledge of space and time is treated in a purely psychological manner, and with a rather inadequate psychology, so are the categories of substance and cause treated as if the "animism" of primitive and unphilosophical thinking explained

everything that had to be explained in a theory of knowledge. Cause is called a "volitional category," Substance is traced back to the notion of self: and Kant is again criticised from this inadequate psychological point of view. "What Kant was really defining to our later vision was the close analogy of the notion of substance with that of self. Kant did not see this, at least with any clearness, but in his hands substance begins to assume the lineaments of a subject-activity" (p. 185). What a strange inversion of history! Berkeley had already seen and used the analogy; and Kant expressly argued against the applicability of the conception of substance to the self. So again we are told, as if Kant's arguments did not at least deserve refutation, that "Soul is a perfectly concrete and intro-experiential term" (p. 266). "Experience," it should be noted, is taken by Prof. Ormond to include not merely actual but *possible* experience: yet there is no analysis anywhere of the term "possibility". Some terms are defined; but the definitions are not always helpful. Thus on page 67 we read: "Knowledge is, of course, a conscious function. Taking it objectively it is a product of what we call the cognitive consciousness." On page 92 "the real is to be regarded as the realised content of experience". Either there is a *circulus in definiendo* or there is an awkward ambiguity in the use of the word "realised".

A great deal is made of personality, but the analysis of the conception is very inadequate. After referring to the use of the term λόγος for "the self-manifesting reason of the world," Prof. Ormond proceeds: "When the Latin tongue succeeded the Greek in our western life as the language of religious thought, the term *persona* and its derivatives became the vehicles of this profounder significance which still constitutes the inner sense of our modern notions of person and personality" (p. 260). Now it is not true in any historical sense that the term *persona* took the place of the term λόγος. In its theological sense *persona* was used for ὑπόστασις: in its legal sense *persona* has helped to give us the modern ethical concept of personality. Some attention to the legal source of the modern term might have suggested the consideration that "individual" and "person" have not always been regarded as co-extensive terms as applied to human beings. Prof. Ormond would have followed the guidance of history better, if he had treated personality among the categories which are influenced by the consciousness of community. But he assumes the conception of personality before he touches on the social factor in knowledge. "Personality," he says, influenced by the original meaning of *persona*, "will be the expression of the self as a whole, not of any part or aspect abstracted from the whole, and it will be a fundamental expression of nature, not a mere flash in the pan which signifies nothing" (p. 262).

In spite of the unfavourable impression produced by the manner of the book and especially by the criticisms of Kant, we must

recognise several features of real interest in the psychological account of cognition which is put forward as an epistemology; especially (1) the stress laid, with perhaps some exaggeration, on the *æsthetic* element in the demand for unity that influences all our cognitive processes (part ii., ch. ix.); (2) the recognition, though rather inadequate, of the social factor in mind and the tracing back of both egoism and altruism to their social basis (part ii., ch. xiii.). There are also some suggestive things in the chapter on "Knowledge and Belief" (part iii., ch. i.). The third part is in many ways the most important: and it would be a pity, if the unfortunate style of the writer deterred any one from reaching this more interesting portion. It is entitled "The Transcendent Factor in Knowledge," and deals with the subjects treated in Kant's "Dialectic". Chapter vi. on "The Transcendent Subject" has a subtitle "Psycho-Theology," which seems to mean "The Psychology of the Divine Mind". Prof. Ormond insists on the recognition of the element of Feeling, as well of Thought and Will, in the Absolute Consciousness (p. 441). The treatment of mysticism, is on the whole, philosophical. The philosophy is, indeed, more after the manner of Plotinus or Augustine than after that of Kant or of Plato, who was always more careful than his professed followers to separate myths and symbols from strict philosophical thinking. On page 417 pluralism is implicitly criticised in the warning against "the mistake of supposing that individuality, in order to be real, must be absolute". Yet this leaves us more astonished that the author should make such an unphilosophical appeal to prejudice as this, on page 479: "The soul's shrinking from the thought of its own annihilation is not wholly the re-action of the instinct of self-preservation; there is in it also the recoil from a kind of blasphemy". Now—apart from any legal definition—blasphemy is a matter of sentiment: and there are some who might think there was more blasphemy in speaking as if the endless perdurability of every individual human being, as an individual and a self-identical person, were an inalienable right to be demanded of the Absolute. There is surely no blasphemy, but a truer reverence, in the caution of Lotze, who is content to say: "That will last for ever which on account of its excellence and its spirit must be an abiding part of the order of the universe; what lacks that preserving worth will perish" (*Microcosmus*, Eng. tr., i., p. 389). Towards the very end of Prof. Ormond's book there is an excellent passage, in the spirit of Leibnitz, which marks a very great philosophical advance in "Intuitionism," if the McCosh Professor may be taken as the exponent of the doctrine of his school. "The mechanical aspect of the world is absolutely universal and co-extensive with reality, and we may look in vain for gaps in its armour. If the spiritual must depend for its right to be, on the existence of crevices and gaps in mechanism then the spiritual is doomed, for it can safely be predicted that no such gaps will be found. The spiritual

mode of conceiving the real asserts itself in its own right, and is as universal an aspect of the world as mechanism itself" (p. 521).

D. G. RITCHIE.

Untersuchungen über Hauptpunkte der Philosophie. Von JUL. BERGMANN. Marburg: N. G. Elwert'sche Verlagsbuchhandlung, 1900. Pp. viii., 483.

PROF. BERGMANN'S volume is in form a collection of essays of which only one is wholly new, only one wholly rewritten. Widely scattered in their first publication and under titles which give but partial promise of inner connexion, they cover topics so far apart to all appearance as the criterion of truth and the psychology of desire, or as Wolff's doctrine of the *complementum possibilitatis* and the determination how far, given the self-subsistent reality of the material world, a soul-inhabited body can be made intelligible. Actually, however, the several studies now reprinted do exhibit an inward unity, do subserve a single metaphysical construction, which, despite of a certain element of bookishness in its inception, has some claims to originality.

The metaphysic which the Marburg professor has to expound is frankly Cartesian in its inspiration. If the conclusions are not those of Descartes, Spinoza, or even Leibniz, the shaping of the problems, the lines of solution, the conception of method, bear the hall-mark of the school. On the other hand, if the ultimate issue is an objective idealism according to which an all-inclusive spirit, of which the individual consciousness is a limitation, has for its everlasting phenomenon the spatio-material world, it is not in the following of the post-Kantian development that this result is achieved. In Prof. Bergmann's view Kant leads to an agnostic *cul de sac*, from which we must retrace our steps, if we would reach the goal which the Cartesians divined but did not attain to. It is as critics of Kant, or as throwing light upon the fundamental positions of Cartesianism, that appeal is made to Schopenhauer and to Fichte, to Herbart and to Lotze. The keynote of Dr. Bergmann's teaching is a Neocartesianism.

It is in the essays on "Existence and the I-consciousness," on "The Objects of Perception and Things in Themselves," and on "Soul and Body," and in a less degree in that devoted to "The Law of Sufficient Reason" that the collective title is seen fully to justify itself. The rest, though of solid structure and not devoid of interest both in themselves and for Prof. Bergmann's system, may be briefly dismissed. The first, on "Belief and Certainty," chops some doubtful logic contrasting the *icht* (as opposed to *nicht*) predication of *glauben* with the bare predication of *meinen*, defines belief as the holding for true, and discusses some rather academic difficulties as to negative and problematic judgments. It then characterises certainty as belief with the added recognition of its warranty. The sceptical objection that for the certainty of your

mark of certainty you require a fresh mark, and so without end, is met by the distinction of recognition and full comprehension. Like the hero of the fairy story, we know when we are in the last room, and seek to penetrate no farther; nor does subsequent reflexion add anything to conviction. In the case of non-derivative certainties we recognise either analytical correspondence of predicate with subject under a law of identity or else accord with experience, whatever that may mean. The second essay seeks simply to set the required law of identity side by side with the law of contradiction as formulated by Kant, to expound them and to determine their limits. The chief interest so far is the polemic against the certainty of synthetic judgments *a priori* and the non-logical certainty which Kant maintains in the moral sphere. There are 'anticipations of knowledge,' and analytical but 'heterological' (not tautologous) judgments are possible—*analytische Erweiterungsurtheile*. The unconditionality of moral obligation is in one sense not certain, in any other if certain it is so according to the laws of logical certainty.

The fifth essay is devoted to a criticism of Wolff's teaching as to the relation of possibility and actuality, with special reference to Baumgarten and Kant's treatment of the same subject. Prof. Bergmann must clear his argument of any suspicion of complicity with 'the ontological proof' of rational theology, whilst yet, as we shall see, his own metaphysic cannot avail itself of Kant's formula of disproof. Hence an acute discussion of the *ens realissimum*. The eighth and last essay, which now appears for the first time, takes up the criticism of Kant's ethics adumbrated in the first, and out of this constructs a theory of morals of a high degree of suggestiveness. Can a practical reason or will be independent of the content of desire? What is the content of desire in general? Can the results of a treatment of volition as directed upon an end ostensibly external to it be reconciled with those of its treatment from the standpoint of its intrinsic character? What would intrinsic character mean? Is there and must there be something corresponding to what the Moral Sense School put in the forefront of their ethics? What formal criterion is there of higher and lower with reference to ends? and the like. The essay is instructive, but it has little bearing upon Prof. Bergmann's neocartesian theory of appearance and reality, by which the permanent value of his book must stand or fall. Indeed it is not brought into definite relation with it. There is nothing of the relation of will to self-consciousness, and the Kantian position most conspicuous by its absence from the ethical discussion is the antithesis of the intelligible and empirical character. Further, it is held to be a *reductio ad absurdum* of one-sided rigorism that a *tugendhaftes Wollen* would need to have itself for its end and aim *ad infinitum*. This would need careful shaping to be compatible with Prof. Bergmann's metaphysic.

To this we gain our definite introduction in the third essay, that

on the Law of Sufficient Reason. Primarily exegetical, this study aims at bringing the principle of the ground into the closest of relations to the well-known text: *prædicatum inest subjecto.* For a perfect intelligence all matters of fact must be capable of being contents of analytical judgments. This pronouncement, however, needs the establishment of non-tautologous analytical judgments, and requires further to be harmonised with the possibility of change, whether of things or, on an idealist hypothesis, of psychical contents or conscious subjects. As to the first point: that may be objectively *der Sache nach* identical, which subjectively *der Auffassung nach* exhibits diversity, *e.g.*, judgments about trilateral figures are identical and yet not identical with corresponding judgments concerning triangles. This carried a little farther leads us to the reality of time. As does the discussion of the second point: if for a perfect intelligence all the determinations of a subject can be expressed analytically, any subject A remains one under all its changes. But this can only be so if A as it was, A as it is, A as it will be, not in points of time but in minimal tracts of time, are the same *in re*, different *conceptu.* Identity in difference is operated by time, which is therefore no mere phenomenon. It is, on the other hand, true that the time-determinations of a 'thing' would follow from its *individuelle Wesenheit*, and not conversely. We conclude apparently to the everlastingness of the world in time, and in a sense to that of the things in it, though there is of course a sense in which they are generated and destroyed. As it was without beginning is now and ever shall be without end.

So far we have reached a conclusion upon the Leibnizian hypothesis. The next essay in part modifies, in part develops the conclusion reached. It deals with the fundamental problem of Cartesianism, existence in its relation to consciousness. "The Concept of Existence and the I-consciousness" embodies Dr. Bergmann's central thought, or it may be said to 'key' his system. By the existence (*Dasein*) of any subject we mean its independence of the need to be an object of perception or thought to some subject beyond itself. Whilst agreeing with Kant that existence or reality cannot serve as a predicate to a subject, he maintains against him (*a*) that every judgment posits the existence of its subject; (*b*) that existence is a determination belonging to a subject; (*c*) related to all other determinations as general to particular. In view of the fact that many propositions fail to affirm the existence of their grammatical subjects and since we reject 'the ontological proof' of the existence of God, we need obviously to determine what the subject of the judgment really is in various types of judgment. Its existence is posited, but what is it? In the case of separate things, if such there be, other than conscious selves, their existence would be co-existence with all similarly existing things in an existent world. This world is the subject. The fact that it involves the thing in question is the predicate. But what again is it that we mean by the reality or existence of

the all-inclusive whole or world? Not self-inclusion or correspondence with itself. That were a tautology or would mean everlastingness in a real time without beginning and without end. The latter cannot be a factual datum for consciousness since futurity is involved. If we are to get forward then, we must be sure of the reality of some one being, without the assumption of that of something beyond it without end. Existence as applied to 'things' is only intelligible as implicated in that of a world. This again, to be realised, must have the reality of somewhat established to which it is related. We can establish *Dasein* for individual consciousness. *Cogito, ergo sum.* Consciousness to appear to itself, or to envisage itself as appearing to itself, must be real. Thought if not independent of thought is independent of the need to be thought by aught beyond itself. That I am is a primitive analytical *a priori* judgment, but withal it is not tautologous but ampliative, and it is an experience or there is no experience. The reality of the world is posited in relation to this real I-consciousness, as including it and all else that is real. The world in question is still hypothetical, and we must be on our guard against identifying it overhastily with the spatial world, and there is trouble yet before us as the nature of the individual self-consciousness, but we have established our Cartesian *sum* and the hypothetical *est* as they come under the notice of Kant in his 'refutation of idealism'.

The I of self-consciousness is both subject and object. As subject it is again object in relation to a subject, and so on without end. As object it is again subject in relation to an object, and so without end. Prof. Bergmann's fundamental paradox is the acceptance of this twofold infinite process. If time be real it is possible to have an infinite series of 'self-positions'. What we find in memory, the present of self in a minimal but finite stretch of time, conscious of its unity with the past of self, and passing over to a future of self similarly conscious of unity with its past, is the fact. We have something like Prof. William James's doctrine of Self operated through a doctrine of Time suggestive of Dr. Shadworth Hodgson's, in either case less psychologically and more metaphysically conceived.

The sixth essay on the objects of perception and their relation to things in themselves is intended to orientate Prof. Bergmann's ontology more exactly with regard to Kant's main positions. The pure philosophical construction is avowedly Prof. Bergmann's chief interest, but incidentally it is possible to serve, and receive service from, history of philosophy, and Kant's *Critique*, as it shows to a thorough-going criticism of Kant, is a focus, so to speak, for the calculation of Prof. Bergmann's positions. What are to be our views of space, time, matter, the thing in itself as unknown residuum defying analysis when we consider our perceptions, and the equally unknown and residual thinker in itself?

It is here, if at all, that Prof. Bergman is to escape from the

suspicion of subjective idealism with which we were left in respect of a world whose reality was possibly only hypothetical or problematic, only ostensible or imputed in the relation of container to the real consciousness for which it was. If it is independent, how are we to construe and how prove its independence? We are certain of the distinction between objects of outer perception and objects of imagination, but none of the things of outer perception are given as real and not phenomenal. Certain of the *Dasein* of our consciousness and of the attribution to this existent of the possession of external perceptions, yes. Of the *Dasein* of the contents of such external perceptions, *no*. Even the primary qualities of matter are dependent on their *percipi* in the sense that we could not say that they would not be obliterated with the envisaging consciousness. The thing-in-itself on the side removed from the thinker is meaningless. Kant is in the right in affirming the phenomenal character of space, and therewith clearly of all spatio-material content, but this involves the abdication of the unknown unconscious assumed to underlie it. There is no Mrs. Harris. On the other hand there is a way of getting forward on the side of consciousness. In the first place, from the disparateness of the way in which we actually perceive space and the way in which it seems that we have to think it, *i.e.*, as infinite and infinitely divisible, the suggestion emerges that mathematicians' space, if not a mere fiction, is phenomenon to an all-inclusive consciousness, while physical space is what space is as phenomenon to the individual's limited perception. So, too, for the primary qualities of matter and all the *præmissa* of scientific physics. They are phenomena for the infinite consciousness, and in construing them the individual is under the necessity to employ sensuous experience, because they are not merely his phenomena, but those of the unbounded and all-inclusive spirit. If science really achieves anything, then we cannot rest in subjective idealism. If we pass beyond subjective idealism the monadology does not help us. If we take the step to objective idealism, inorganic 'things,' our bodies, other selves present no real difficulties. This is the train of argument by which the problematic or assumptive nature of Dr. Bergmann's idealism is *aufgehoben*. In the second place, if the 'I think,' that for Kant accompanies all my perceptions, is a fact for consciousness, it takes place in time. A consciousness of the persistence of anything in time itself persists through that time, but grant this, and the distinction of the timeless I from the empirical I of inner sense is destroyed. The former is not, for there is no timeless consciousness. The latter is not, for there is no I-phenomenon. Instead is the everlasting self-position, not only as to existence, but as to nature, of a real self in real time, and so of its world, of the infinite self-consciousness and of its phenomenal 'other,' the everlasting spatio-temporal world.

Throughout this 'rectification' of Kant, and especially with regard to certain phenomena implicating both sensation and feeling,

e.g., toothache, we have constantly been confronted with bodily —our-bodily—facts. Our bodies too are objective phenomena, for the infinite consciousness and so for the finite. Nevertheless in the essay on "Soul and Body" a brave attempt is made to vindicate once more the plain man's conception of bodily organisms, *i.e.*, bodies where the conditions of a true unity are present, endowed with soul or consciousness. It is, of course, intended that this should fail, but it is intended also to show it so nearly successful as to reduce the artificially widened gap between empirical and metaphysical world-formulas. This essay is in its detail the cleverest in the book, though in these days of electro-magnetic and ether theories some of its mechanics may be thought belated. Dr. Bergmann has cognisance of multi-dimensional space-theories, but Euclidean space is involved for him in a heterological analytical judgment *a priori*. The 'adverse occupancy' of space by matter rests for him on a to us unknown, because not extensional, character of matter. The conditions of a real, *i.e.*, self-subsistent organic unity might be fulfilled if we have other similarly imputed unknown characters, but still the fusion with consciousness, or the co-ordination of organised extension and consciousness as not self-subsistent attributes of an unknown third, contradict our doctrine of consciousness, just as the presumed independence of the spatial world contravenes our doctrine of perception. So we conclude in terms of our metaphysic as developed.

The renewal of interest in Leibniz and the growing tendency of certain schools to couple their logic and dynamics in the manner of that master, might perhaps act somewhat unexpectedly in favour of a writer who has kicked against modes in philosophy and followed his own train of thinking despite of the dominant subjective interests of his day. But even if no disciples accept Prof. Bergmann's construction as the truth, at any rate any student who will work through Dr. Bergmann's wealth of detail must learn what is new to him, true to him, of value to him. Prof. Bergmann has studied philosophy in a great school,—namely, in the history of philosophy itself, notably that of the eighteenth century. He has felt the fascinations specially of two great masters, Leibniz and Berkeley. And he is

Nullius addictus jurare in verba magistri.

HERBERT W. BLUNT.

Die Philosophie des Geldes. Von GEORG SIMMEL. Leipzig: Verlag von Duncker & Humblot, 1900. Pp. 554.

MONEY is at once symbolical of and instrumental to that connexion which subsists between the most external phenomena of existence and its most ideal potencies. A Philosophy of money should deal therefore on the one hand with those preconditions in the constitution of the soul, in the relations of society, etc., from which money

derives its significance; whilst on the other hand it should follow out the part played by money in the development of the inner life of the individual and of society. "Keine Zeile," says the preface, "dieser Untersuchungen ist nationalökonomisch gemeint." Yet the facts of economic science and of economic history necessarily play a large part in the discussion, as also do the facts of anthropology. There are many interesting contributions to descriptive ethics; the main points of ethical theory are brought under consideration and there is a digression on the theory of knowledge. But the central theme lies in an amplification of the ideas expressed in Prof. Simmel's essay, *Über Sociale Differenzurung*, which was published in 1890. The two aspects of the subject above referred to are dealt with in the *Analytischer Teil* and the *Synthetischer Teil* respectively, each being divided into three chapters.

The first chapter discusses value in general and the distinction between its subjective and its objective forms. Over against the world of mere conceptions (*Begriffe*) stand the two independent all-embracing categories of Being and of Value. Each rests on fundamental feeling and neither is reducible to the other. In the same way the distinction between subjective and objective values appears to be taken for granted. Objective values need not refer to the object; 'there may subsist relations between subject and object by virtue of which certain feelings present themselves to the former as equally obligatory and inevitable as sense impressions. In realising their living force we appear only to acknowledge a claim of the conceptual order of things, religious, æsthetic and moral.' The conception of objective value is in fact metaphysical, and is referred 'to the fundamental disposition of the human spirit, so to experience a content as if it were not itself the subject of the experience, but the medium (*Vermittler*) through which an impersonal Power realised its existence'. To this explanation which seems to smack a little of the '*vis dormitiva*,' it is but a corollary to say that the practical significance of objective value lies in providing norms for subjective value. This starting-point, however, being granted there is little to object to in the account given of the gradual determination of values through the conflict of desires among themselves and the opposition they encounter in the nature of things; though now and then the author seems to confuse, perhaps inevitably, the historical with the logical order. In the last section of this chapter Prof. Simmel seeks to fit his conception of economic value into "*ein prinzipiell bestimmtes Weltbild*". Our ideas are dominated, he tells us, by the physiological necessity we are under of alternating between rest and movement. Hence arises the antithesis between substance and attribute and in course of time that between absolute and relative. With the growing sense of the relativity of knowledge, the absolute has lost its content and seems about to disappear. Yet the mere relations imply criteria, and these again an ultimate criterion. In our search for such criteria we may never attain

finality, but we must continually approximate to it; and persistence in this distinguishes the relativist from the sceptic. These criteria however are not superimposed but immanent, not constitutive but regulative. Truth is in fact relative to practice; it emerges in a mutual self-adjustment of ideas, it is a '*functionelles Zusammengehören*'. The truth in the sense of sight of a man, an eagle or a fly, lies in its adaptation to its respective environments. The origin and nature of value are closely analogous to the origin and nature of truth. 'Relativity is not a weakening, a qualification of an otherwise independent idea of truth—it is the essence of truth itself—it is the mode in which ideas (*Vorstellungen*) become truths just as it is the mode in which objects of desire become values.'

The philosophical background thus sketched in shows a bewildering transition of standpoint between physics and psychology, the theory of knowledge and metaphysics, which reminds one of a Platonic dialogue. Indeed it is in a short digression on the Platonic ideas at a later stage in the book (pp. 479-481) that the reader will find what is perhaps the author's most successful attempt to state his own philosophical position. It may be added that the value of Prof. Simmel's speculations is largely independent of this metaphysical basis; or rather that the implicit metaphysic which is essential to his psychological investigations has an adequacy which seems to fail it when drawn out into abstraction.

The second chapter treats of the distinctions between the substantial character of money and its functional character; and describes the historical evolution by which the former character tends to lose itself in the latter, a process, however, which can never be perfectly completed. To most English readers there will probably appear to be an excess of subtlety in the treament of this part of the subject. The functional character of money as a pure means being considered as approximately realised, the third chapter on '*Das Geld in den Zweckrechen*' follows out the psychological and economic consequences involved in the possibility of separating means from ends. In this connexion will be found a discussion of most of the conceptions introduced of late by economists in expounding the theory of value, marginal utility, consumer's rent, future values, etc., and a specially careful analysis is given of that cumulative power of capital by virtue of which quantity passes over in quality. On the psychological side there is an interesting analytical study of the various abnormal phases of character to which a money economy naturally gives birth, *i.e.*, the passion for money making, avarice, extravagance, voluntary poverty, modern cynicism and the *blasé* character. In such psychological characterisation lies one of Prof. Simmel's strongest points, but to summarise the result is impossible.

The second or 'Synthetic' half of Prof. Simmel's book will probably be of greater interest to most readers, and it is perhaps on the whole the more successful half. Its three chapters are entitled 'Individual Freedom,' 'The Money Equivalent of Personal

Values,' and the 'Style of Life'. Though they cover a great deal of ground and are marked by the author's usual wealth of illustration and tendency to digression, the main theme is throughout the development of the ideas expressed in the essay on Social Differentiation. The progress of civilisation is to be measured by the constant widening of the circle of persons with whom a given individual is brought into relations of interdependence, and at the same time by a decrease in the degree of dependence of the individual on any particular person or group of persons. The psychological differentiation of function of which this development is the outward expression finds its main instrument in the money economy. From a tribal status under which the whole concrete personality is bound by a single undiscriminating obligation at once religious, political, social and economic, man passes by degrees to a condition in which he is bound by separate ties to his country, his church, his family, his trade, his party, his social circle, etc., and for the most bound only in a form of limited liability which lends itself increasingly to experiment and variation and therefore to positive freedom. Along side this development there proceeds an auxiliary and complementary evolution of property from its most immobile forms to the perfect fluidity of an all-pervading currency, a process which renders possible the formation of those professional classes which are perhaps the most characteristic feature of a high civilisation. In the earlier stages what a man has and inherits largely determines what he is; whilst in the later his personality acquires an increasing power to imprint its character on his possessions. We cannot cease to be the heirs of the past but it makes all the difference to our liberty whether the inheritance is one that claims *us*, or one that we ourselves choose. The money economy thus opens the way to a progressive individualisation of the individual; whilst at the same time by an ever subtler and more complex interweaving of the separated fibres of impersonal relationship it promotes the socialisation of society.

The fifth chapter begins with a discussion of 'blood money' and of marriage by purchase. It seems at first a curious paradox that the period most remote from the money economy should have been the one in which the value of a person was most readily balanced by a money equivalent. Apart from much ingenious interpretation of anthropological details which are themselves perhaps still somewhat involved in a speculative atmosphere, Prof. Simmel would account for this class of social phenomena generally by the fact that neither the intrinsic value of man nor the extrinsic value of money had yet emerged into clear consciousness. Now that the antithesis between humanity as an end and money as a means has been realised, the moral degradation involved in bartering the former for the latter is typified in the word prostitution. Prof. Simmel subjects to a careful analysis these perversions of freedom and also those cases of negative

freedom in which the transition to a money economy has lowered instead of heightening the personal status; and he devotes the final section of this chapter to the discussion of labour values. His treatment of the Marxian theory shows a great advance in sympathetic appreciation on the usual academic criticism, which, starting from a purely economic standpoint, have no difficulty in proving *Das Kapital* to be a mass of absurdities. This is as if one were to subject "*Le Contrat Social*" to the severest tests of anthropology and comparative jurisprudence. What demand serious philosophic attention are the passionate idealistic beliefs that appealed through these books to the multitude, not the devious and illogical form of the speculations through which they found expression. Prof. Simmel at any rate carries us to a higher standpoint from which the essential features of this phase of idealism begin to emerge upon our view. He holds the labour theory to be philosophically the most interesting of all theories of value. The attempt to reduce all labour to physical labour is not due to ignorant contempt for mental work, but points rather to the fact that a considerable portion of the mental factor in production is actually gratis. What determines the form of the theory is, however, an ideal of social equality which is only conceivable on an economic basis. It is, moreover, as an ideal and not as a statement of fact that the constant correspondence of the use-value of a commodity with the labour-time spent upon it, can alone be fruitfully criticised.

The sixth chapter on the 'Style of Life' is apparently intended to balance the third. The psychological predispositions attendant upon a money economy which were there traced in the formation of individual character are here shown to give a colour and a tone to the life of civilised society as a whole. Foremost of these characteristics is the increasing predominance of the intellectual element over the element of feeling in social psychology. The analogy between the parts played by intellect and by money is once more insisted upon. The intellectual development of human society and the rise of the money economy each assist at the formation of a certain impersonal almost communistic atmosphere. The interests of life are objectified so that we view them coolly and disinterestedly, and a spirit of toleration is fostered which was impossible amid the conflict of immediate unreflecting impulses. But, in course of this same process, as desire loses its directness, as means multiply and ends are obscured, as the rationalistic temper prevails over sentiment, a new sphere of activity is created apt for the aggrandisement of the individual and for the exploitation of the many. Moreover, in the culture of the spirit our subjectivity is overborne by the ever-growing predominance of the 'Objective Mind' of humanity. "Things are in the saddle;" 'The individual withers and the world is more and more'. The last section of this concluding chapter gives a series of ingenious illustrations of the effects of the money economy

on the formal aspects of life expressed in terms of perspective, rhythm, measure and symmetry, all of which serve to accentuate the function of money as symbolising the relativity of existence.

The saying of Joubert about himself, 'Je suis propre à semer mais non pas à batir et à fonder,' might be applied without injustice to Prof. Simmel. His book is a storehouse full to overflowing of fine psychological observation, of valuable philosophical suggestion, and its weakest points are where it makes the nearest approach to systematic treatment. It must be added that it is probably more useful and stimulating than a more systematic attempt would have been, since the time is scarcely ripe for successful construction. In this connexion it is most significant that the author should have chosen to formulate his views as a philosophy of money rather than as a philosophy of value. It is quite consistent with this that the *Weltbild* into which he would fit his speculations, is a theory not of reality but of knowledge, a theory, moreover, which, however it may seek to outgrow its origin, has its roots in scepticism. If the combination of subtle psychology with naïve metaphysics seems to carry us back to the pre-critical epoch this is because philosophy having widened its orbit must repeat its phases. Philosophy, however, cannot unlearn its past, and from time to time it is borne in upon the reader of this book that if the hands are the hands of Hume the voice is the voice of Hegel.

In shifting its centre, as it is tending to do, to the notion of value, philosophy is following by a true instinct the direction of the concrete human spirit. The social idealists have already sought the Absolute in work and in wages. The labouring man has vaguely felt that each pay-day should have the finality of the Last Judgment. To whatever abode the human ideal shifts its quarters, philosophy must follow with its transcendental dialectic. In this migration Prof. Simmel is a brilliant pioneer. He has cleared the ground and shown how the land lies. The imperfect juncture of the two parts of his book reveals the nature of the problem, which is to bring into vital connexion the phenomena of value and the phenomena of social differentiation. Of the reality of such a connexion, the money economy is the outward and visible sign. On those deeper aspects of the subject to which any philosophy of money must be inadequate Prof. Simmel has not failed to touch. He is never so happy, for example, as when he is drawing illustrations and analogies from the world of art; and this is the region where all the higher elements of the problem of value converge.

GEORGE UNWIN.

L'Imagination et les mathématiques selon Descartes. Par P. BOUTROUX, licencié ès lettres. Bibliothèque de la Faculté des Lettres de l'Université de Paris, No. x. Paris: Alcan, 1900. Pp. 45.

THIS volume contains a careful exposition of Descartes' doctrine

on the subject dealt with, but abstains from all criticisms; the many objections to the doctrine are not mentioned, and some, at least, seem not to be perceived. The difficult questions as to the Cartesian meaning of imagination are left untouched. The work has as motto a quotation from the *Regulæ* to the effect that the intellect alone can perceive truth, but that it is well to assist it by means of imagination, senses and memory. This thesis is amplified in the text. Descartes aimed at restricting the use of imagination in mathematics, but regarded, it, nevertheless, as in some degree an indispensable auxiliary. M. Boutroux divides his discussion into two parts, the first on the principles of mathematical knowledge, the second on mathematical demonstration. In the first part, it is pointed out that, though knowledge requires ideas, not images, yet imagination is useful, not only in Geometry but also in Algebra, from which Descartes excluded every notion not capable of representation by an image. In the second part, it is pointed out, to begin with, that Descartes asserts not only that the triangle can be conceived, but also that its properties can be proved, without the help of imagination or the senses (p. 13). But demonstration, being regarded as a practical method of arriving at new truths, may be pursued by whatever method is most convenient, and practically it is easier to employ the imagination to some extent. M. Boutroux proceeds to remark (p. 15) that imagination always intervenes in deduction, since this operation takes time. This view seems irreconcilable with the previous view as to the demonstrability by the pure understanding of the properties of the triangle. It seems also scarcely possible to hold, as he does, that imagination is essentially to be distinguished from the understanding by the fact that the former, but not the latter, acts in time. For the imagination is a part of the body, situated in the brain (*Regulæ*, xii.), which is surely part of its essential difference from the understanding. M. Boutroux points out that Algebra, for Descartes, has to borrow its definitions and axioms from Geometry, and in this way makes use of imagination; and that the practical utility of symbols depends upon their being imaginable. Descartes' universal mathematics is regarded as a youthful dream, which he afterwards abandoned. Demonstration, we are told, is not properly an affair of the understanding, for, from the point of view of the understanding, one proposition does not precede another or give its reason. This view, by the way, though probably Cartesian, is certainly false. The volume ends with two appendices, one on Victa, pointing out that he was more dependent on imagination than Descartes, the other on the differences between the *Regulæ* and later works.

Though many of Descartes' remarks on mathematics are excellent, his theory of the imagination appears thoroughly erroneous —so much so as to possess nothing but a historical interest. But such as it is, the theory has been clearly, and, I think, correctly, set forth by M. Boutroux.

B. RUSSELL.

VI.—NEW BOOKS.

Ethics: Descriptive and Explanatory. By S. E. Mezes, Ph.D., Professor of Philosophy, University of Texas. New York and London: Messrs. Macmillan & Co., Ltd., 1901. Pp. xxi., 435. Price 10s. 6d. net.

In this book, Prof. Mezes claims to give a scientific account of morality, without prejudice to the metaphysic of ethics. His aim is to investigate ethical phenomena purely on the basis of experience, refraining even from giving an estimate of their value. Yet, experience is to be widely interpreted, embracing the past as well as the present, and paying due regard to uncivilised as to civilised races. The methods also are various; introspection alone not being sufficient. Help is to be sought from every available source, and more especially from the study of origins.

After two chapters of an introductory character, the work is divided into two parts—the first devoted to consideration of subjective morality (extending from chapter iii. to chapter viii.), and the second to consideration of objective morality (chapters ix. to xv.). By subjective morality is understood what rightness means to the agent himself; and so part i. is occupied with a discussion (*a*) of voluntary action, and (*b*) of the individual conscience (its nature, its cause, its origin, and its development). By objective morality, on the other hand, is designated "the body of actions vouched for as moral by the standard or wise conscience"; and the topics treated under part ii. are the cardinal virtues (here set down as five) and welfare.

The concluding chapter (xvi.) of the treatise sums up the subject, and makes a few remarks on the value of morality. A tolerably full Index completes the volume.

As will be seen from this brief outline, the writer's object is a decidedly limited one. By restricting it so, he not only gets rid of the metaphysical issues, but also feels justified in ignoring many of the puzzling questions in psychology. His *rôle* is simply that of a describer, explaining as he goes along by giving an account of how the various ethical principles and conceptions have come to be. And, in unfolding his subject, he has the merit of adhering consistently to the plan laid down. He is also, for the most part, thorough in his handling; the topics as they appear being expanded with elaboration, and sometimes with an exhaustiveness that borders on prolixity. The work cannot be said to be in any remarkable degree original; but it is executed with care and patience, and written in a style that is clear, though not always free from faults in grammar, or from an un-English use of words and phrases. It is characterised, further, by good psychological analyses, and by sound common sense, which frequently takes a practical turn. This last characteristic is most prominent in the handling of the virtues.

As good an example as any of Prof. Mezes's powers are the chapters on

Conscience, under subjective morality, treating of the adult conscience, the psychic cause of conscience, the birth and growth of conscience in the child and in the race. Although reproducing in part, as needs must be, the investigations of others, they are marked by real insight, and show at its best the virtue of the genetic method in the handling of ethics.

Less satisfactory is his handling of voluntary action. Too many questions are passed by, being referred to the text-books on psychology; and also the analysis of Will is inadequate. Had Prof. Mezes gone back to Aristotle, he would have been guided to a completer presentation of volition. At any rate, he would have been impressed with the necessity of taking Will in connexion with Desire and of giving some explicit exposition of the latter.

So, too, his position that only voluntary actions are moral phenomena is a very obvious one; but it is not so obvious that "neither emotional states, intellectual states, nor fixed habits are moral phenomena". True enough, emotional states in themselves are not moral phenomena, but they become so when they are brought within the range of self-control; for, then we contract a responsibility regarding them, inasmuch as their intensity is, in part at least, regulated by the degree of attention we accord them. In like manner, intellectual states are regulated by attention, and thus come under the will and may have a moral aspect; and, as to fixed habits, these, in so far as fixed, are removed from the ordinary control of the will, but, as a habit is formed voluntarily, it may seriously be questioned whether any habit is ever so absolutely fixed as to be excluded, under *every* conceivable set of circumstances, from the will's influence.

In his section on objective morality, the author is concerned with the question of the ultimate end, which he makes out to be sentient welfare or "the common good of all co-operating sentient beings"; and the greater part of the exposition consists in a detailed handling of the cardinal virtues. These are maintained to be five in number, *viz.*, courage and temperance (involving the will), benevolence (attaching to feeling), justice and wisdom (which are specifically intellectual). This list, the author holds, "is at once adequate and compact, covering the whole field of morality, but covering no portion of the field twice". It can hardly be said that his own treatment bears out this estimate. That there is overlapping among the five virtues becomes very apparent as the exposition proceeds; and it is difficult to persuade oneself that there are not also grave omissions. Take Humility, for instance: where is its place in the classification? Doubtless, by a Procrustean process it might be possible to fit it to one or other of the five forms, but not satisfactorily. Humility is neither courage nor temperance, although, under certain circumstances, it may assimilate itself to either. It is not benevolence, although in certain aspects it faces that way; nor can you, except in a special context, designate it justice or wisdom. It is a quality of character quite distinct, and, in civilised communities, prompts to actions that minister to social welfare. That, according to Prof. Mezes's own test, gives it a right to a separate place in the treatment of objective morality.

So, too, with Truthfulness—which is here unmentioned. Not only is this one of the most important social virtues with a quality of its own, but it also presents peculiar difficulties needing to be carefully elucidated, and it lends itself in a very special manner to the historical mode of treatment that Mr. Mezes delights in.

The characterisation of the five virtues selected for consideration

becomes very much, in the hands of the author, distinct character-sketches of the virtuous man in his five-fold aspect—the courageous man, the temperate man, the benevolent man, the just man, the wise man. These are, in the main, successful; but the sketch of the wise man is slight and not sufficiently vital to be effective.

WILLIAM L. DAVIDSON.

The Adversaries of the Sceptic, or the Specious Present: a New Inquiry into Human Knowledge. By ALFRED HODDER, Ph.D. London: Swan Sonnenschein & Co., Limited; New York: The Macmillan Co., 1901. Pp. iii., 320. Price 6s.

The sceptic is Dr. Hodder. His adversaries are Mr. Bradley and Prof. Royce. He poses as "the defender of the Specious Present as the starting-point of thought against the defenders of mere postulates," professing a "scepticism" that is a "solipsism of the Specious Present". His position, however, is neither sceptical nor solipsistic in a 'constructive' sense. He does not 'positively deny'. He does not assert 'I am really All'. In fact, he talks black and thinks drab—perhaps a not unpardonable device on the part of one whose literary object is evidently to shock. Yet Dr. Hodder would not shock us out of our senses so much as back to them. "Naïve realism," in regard to metaphysics and ethics alike, is the moral of this eminently readable, though shockingly misprinted, book—the 'doubtful' moral, let us hasten to add, lest we fail to do full justice to the principles of its author.

Dr. Hodder's "logic" is a "psychologic," and claims to be based on indubitable "fact". So much we are told; but otherwise little trouble is taken to keep foundation and superstructure distinct in the interest of the reader. The latter is left to divine as best he can what that ultimate "fact" is which the sceptic is prepared to swallow, or rather which willy-nilly swallows him. The indications, however, point to its being the following—that there is a "real" basis of vivid "presentative" elements intuitively given in any experience, however momentary, which basis of itself distinguishes itself from any "representations" it may seem to support, such as those of a past or future. We are informed that we are standing in one of those circular panoramas which have their foreground built up of solid things and the background painted in. "Introspection," it is asserted, will always enable us to detect where three dimensions give place to two, where presentness—the here and now as it is in itself—shades off into the "make-believe" of presentness. The "mode of existence," the "essential stuff" of present reality and present make-believe of its own accord proclaims itself different.

What follows? As against 'absolutism' in metaphysics it is supposed to follow that there can be no 'necessary' postulates, presuppositions, implications, of thought in virtue of any activity it may seem to display. 'I judge, therefore a standard of judgment is,' cannot but be inconclusive, since I do not know myself as judging "of" and "about" in *any* sense and to *any* purpose with that perfect presentative sense of assurance wherewith I know, that is, am "acquainted with," the here and now in the intuition *cogitatur ergo est* (as Leibnitz would have put it). Nor is the 'voluntarist' view of postulates held to be much, if at all, sounder than the absolutism it seeks to displace. The constructions of representative thought at their least invalid are no outcome of a 'will to believe'. Within the problematic region of the representative those collocations of symbolised experience which present themselves "unforced" distinguish themselves by a sort of reality of make-believe from those which 'we' call into being by the aid of "imagination".

It will be noticed that the foregoing argument against absolutism bases itself on quite a different kind and order of "fact" to that contemplated in the argument against voluntarism. To the "logic" of the former the scepticism of its upholder—or rather vehicle—offers no objection. And yet here there was surely something for him to cavil at. Since his "reality" is not one with the bare givenness of experience as a whole, but falls within that givenness as a special kind of givenness, namely, presentativeness, it has surely at best but the relative character (whatever be the degree of vividness attaching to it in what we distinguish as feeling) of a substratum, ground, or what not, of representative consciousness. But no. Intuition and vivid feeling and reality are something absolute and apart, and yet there are representations purporting to be of something about which we are not allowed to say that it absolutely is not. For our Solipsist of the Specious Present is half-hearted. We read that the limits of the here and now are "as walls pierced with windows," and that "what is dimly seen is seen". The precise ontological status attributed to the dim view commanded by these windows is that it is the possible or at any rate the not-impossible. In which world of precarious being "fact" of a kind, as we have seen, is nevertheless able to distinguish itself from "fiction". Man knows himself most distinctively as the father of lies. The test of "fact" at this stage is unforcedness, spontaneity (as contrasted with the will!) pertinacity, predominance and permanence. Perhaps it is just as well for us that certain 'useful lies' are uncommonly pertinacious in their way!

The corollary of all this is naturally hedonism. Pleasantness in the sense of a felt "welcomeness" occurs as fact *par excellence* (fact of the inferior second kind, of course) in our forecasts of the future. Motive, meanwhile, is simply forecasted fact and nothing 'we' make, volition being but the selection of means whereto we are driven by the precarious, yet inexorable, "logic" which posits the end. Desire and Will, however, it is admitted, are, *qua* facts, amongst the grounds of inferential forecast. Room thus would seem to be left for a paradoxical hedonism which should assert that the desire and will to do right without regard to consequences in the way of unideal and vivid pleasure are of all the facts relating to morals precisely the most "pertinacious" and most instinct with "welcomeness". Dr. Hodder, however, does not seem so strong on the side of history as on that of introspection—to judge, at least, by his Thrasymachean harangue on the subject of the "Morality that Is".

So much, then, for this "new inquiry" which urges most of the old things that have been said on behalf of 'objective' *versus* 'subjective' absolutism in a fresh and spirited, if somewhat mazy, way. Dr. Hodder's "adversaries," however, are likely to remain unconvinced. They will ask him to turn his scepticism against that "specious present" of his which bears so suspicious a resemblance to the phenomenon of that name which certain psychologists declare themselves to have timed by the aid of a stop-watch. Once "we" are got well into "time" by the aid of a psychological catch-word, it is comparatively easy to prove us superfluous or worse, our affirmations of the pre-existently firm being echo, when valid, and, when invalid, presumably the devil.

R. R. Marett.

Peter Abélard. By Joseph McCabe. London: Duckworth & Co., 1901.

This is a very unsatisfactory book. The 'monastic, scholastic and ecclesiastical experience,' on the strength of which Mr. McCabe considers that he 'may approach the task' of giving a 'complete study' of

Abelard 'with a certain confidence' has perhaps enabled him to sympathise to some extent with the great teacher's bitterness of spirit, but that is all. It is unnecessary to dwell on the evidences of a lack of good taste in style and temper which the book exhibits, or to enumerate the many inaccurate and loose statements which may be found in it. From the point of view of the readers of MIND, as an account of Abelard's philosophy, it is utterly worthless. It is no doubt true that the exact logical doctrine of Abelard (why, by the way, does Mr. McCabe prefer the indefensible hybrid form *Peter Abélard?*) is difficult to discover, but Mr. McCabe does not touch upon it at all, beyond some cheap scoffs at the discussions on the nature of universals carried on in the twelfth century, scoffs which are not made at all more impressive by the information that the author has 'sat on the chair of scholastic philosophy and held grave discourse on genera and species'. He succeeds better in stating the importance of Abelard as a theologian; but his contempt for speculations connected with the doctrine of the Trinity (speculations full of significance for Abelard) is too great to allow him to give the reader any intelligible account of what Abelard held or did not hold on this matter; and the fact that in his version of Abelard's description of the council of Soissons he omits one sentence, the omission of which entirely deprives of its point the otherwise amusing story of the papal legate who was drawn into a direct conflict with the Athanasian creed, sufficiently indicates the uncertainty of his touch when dealing with this part of his subject. Even with the external side of the history of philosophy in Abelard's day, Mr. McCabe can have but a superficial acquaintance. Otherwise he would have hesitated to think it possible that Abelard knew Aristotle's *Prior Analytics* and *Topics* (a view which he attributes, without apparent ground, to Cousin, who knew better), or that he might have 'approached the easy Greek text of the New Testament'; he would not have spoken of the currency of a translation of the *Timaeus* in twelfth-century France as a fact which might be questioned: he would perhaps have asserted less boldly that Erigena was 'well remembered' in Abelard's time. Abelard was a great thinker and a great sufferer; a martyr for intellectual freedom and a teacher who did much to determine the subsequent course of intellectual progress in Europe. In Mr. McCabe's book he appears as the hero of a shallow and arrogant secularism. No doubt he was a man of a haughty and revolutionary spirit; pride and mockery came easily to him; but this negative or destructive side of his intellectual character, which alone appeals to his present biographer, was not the only side which it presents. He cannot be rightly understood if we ignore the positive and constructive aspect of his nature, on which he was as deeply interested in the problems of his age and resolved to understand them, as he was impatient of the acquiescence in mere traditional formulæ as affording a solution of them. One may share Mr. McCabe's regret that we have not received a complete study of Abelard from Mr. Poole; it is impossible to think that Mr. McCabe has done anything even temporarily to fill the gap. We may conclude by hoping that no one will be misled by Mr. McCabe into supposing that the *Confessions* of St. Augustine and the *Historia Calamitatum* of Abelard are at all alike, except in that both are autobiographies; and by recommending to Mr. McCabe's attention as a student of mediæval thought the masterly contrast and comparison between St. Bernard and Abelard's successor as the object of Bernard's persecuting zeal, Gilbert de la Porrée, drawn by the hand of John of Salisbury, the friend of both and the pupil of Abelard himself, in his *Historia Pontificalis*.

C. C. J. WEBB.

The Life of Henry Calderwood. By his Son and the Rev. David Woodside. London: Hodder and Stoughton, 1900. Pp. viii., 447.

The authors of this volume are to be congratulated on an excellent piece of work. The biography is shorter than one would have expected the record of such an extraordinarily full and active life to be. Yet within the limits to which the authors have chosen to restrict themselves they have given a most successful and interesting account of Prof. Calderwood's life and work. While making a rapid survey of his public career and work their main object, they have not failed to present with sufficient clearness the principles and views which determined his action on all the more important and often difficult and disputed questions with which he had to deal in his various capacities as educationist, citizen, and churchman. Their narrative has, besides, the merit, of leaving the reader with a strong impression of those qualities of mind and character which made Calderwood's work what it was—his clear-headedness, his resoluteness of will joined with a most conciliatory temper and great kindness of heart, but above all the strenuous moral purpose which was manifest in every action of his life, and gained him the profound respect and confidence of all those who knew him or came under his influence. This influence of his personality is rightly emphasised by those who have contributed recollections of him as a teacher.

A short but admirable sketch of Calderwood's philosophical writings by Prof. Pringle-Pattison concludes the volume. It is unfortunate for Calderwood's philosophical reputation that his most important work belongs to an almost forgotten controversy, and is consequently little read. Written within a few years after he had passed through Sir William Hamilton's classes, his book on *The Philosophy of the Infinite* showed not merely great courage and independence of thought, but also a remarkable insight into the real weaknesses of Hamilton's position. Thus, to take only one of the passages here quoted, when he argues that "whi it is true that the finite mind cannot have infinite thoughts . . . [it is] equally true that the finite mind can have finite thoughts concerning an infinite object," he unquestionably fastens upon a most fundamental distinction, and one which renders much of Hamilton's argument untenable. It is interesting to read (p. 197) that he had at one time formed the project of writing a popular exposition of moral philosophy, in which, it may be conjectured, the more practical parts of the subject, which are very briefly treated in his published text-book, would have held a prominent place. And it is certainly a matter for regret that this project of a work, for which he was peculiarly fitted by his practical wisdom and experience, was never carried out.

Chapters from Aristotle's Ethics. By J. H. Muirhead, M.A., Professor of Mental and Moral Philosophy, Mason University College, Birmingham. London: John Murray, 1900. Pp. xiv., 319.

This modest production possesses the characteristic merit of Prof. Muirhead's work, *viz.*, that of fulfilling the purpose for which it is intended. No attempt is made to step outside the definite limits laid down, but within those limits all is clear, well-arranged and complete. The special object of these 'chapters' is "to bring some of the leading conceptions of the *Ethics* into connexion with modern ideas for the sake of the general reader". Their original form was that of a course of lectures to teachers, and the special reference throughout is to persons engaged in educational work who know no Greek.

The first, and larger, portion of the book consists of thirteen lectures

upon Aristotle's conceptions of Virtue, Happiness, Friendship, etc.; the remainder of an English version of the 'Selected Passages' upon which the lectures are based. The version succeeds, without sacrifice of accuracy, in reproducing Aristotle's doctrine in a manner more readable than is usual, or indeed possible, in a translation intended for the use of students. The only serious fault is the use of the word 'soul' (both in the version and throughout the lectures) as the rendering of ψυχή. This conventional equivalent has its dangers even for scholars, and nothing, surely, could be more misleading to the 'English' reader. The lectures combine the advantage of a historical, with that of a scientific, introduction to the study of Ethical questions. The idea was a happy one and has been excellently worked out, while upon some points—*e.g.*, the relation of Habit to Choice, the educational value of Friendship, the psychological nature of Pleasure—Prof. Muirhead's treatment will give food for thought to readers who are beyond the introductory stage.

W. H. Fairbrother.

Government or Human Evolution; vol. ii., *Individualism and Collectivism.* By Edward Kelly. London: Longmans, Green & Co., 1901. Pp. xv., 608. Price 10s. 6d.

The second volume of Mr. Kelly's *Government or Human Evolution* is devoted to a criticism of Individualism and a vindication of Collectivism. The initial difficulty of Mr. Kelly's argument is that it starts from the conception of these rival abstractions as if they were final and real (*e.g.* "the fact that pauperism, prostitution and crime are the necessary (*sic*) attendants and products of individualism is a sufficient reason for questioning its claims"); and his whole historical review of Individualism may be said to proceed upon an abstraction, the result being that his logic of social and economic causation will appear to many minds as "unequal to the subtlety of Nature". It is doubtful at any rate whether it will carry conviction to any one who is not already in favour of the thesis to be maintained. There is, we think, a substantial truth in Mr. Kelly's position; but certainly he is very free with generalisations of a kind which suggest that he has not been too careful to verify his references. They are generalisations which would certainly be very interesting if they were true; but we are a little afraid that they may indispose the exact reader for the more constructive part which follows; and this is really an eminently reasonable and "presentable" statement of the case for collectivism. Mr. Kelly is careful to emphasise the distinction—essential to any profitable estimate of its claims—between collectivism as a method or programme of social reform and collectivism as an ideal condition of society. He has not altogether succeeded in avoiding the "Utopian" aspect of collectivism; but, taken as a whole, Mr. Kelly's statement of the collectivist case is commendably tentative and elastic; his earnestness and enthusiasm are tempered with judgment and discretion. The statement, however, would have been better if it had been shorter. This is not the place for any examination of Mr. Kelly's argument; his definitions may not always be exact enough for the philosopher, and he occasionally uses terms like "social mind" in a somewhat disconcerting sense; but there is nothing in his philosophy that should offend any but an "individualist" pure and simple, and there is much in it that invites favourable comparison with the "social philosophy" of professed philosophers. It may be pertinent, however, to remark that Mr. Kelly's comment on Aristotle's definition of virtue was perhaps unnecessary; it is certainly wrong.

Sidney Ball.

Outlines of Educational Doctrine. By J. F. Herbart. Translated by A. F. Lange. Annotated by C. de Garmo. New York: The Macmillan Company, 1901. Pp. xi., 334.

This work, as the Preface does *not* inform us, is an annotated translation of the second or 1841 edition of Herbart's *Umriss paedagogischer Vorlesungen.* It may also be added, for the benefit of the uninformed reader, that the paragraphs headed *Note* are by Herbart himself, and not by his present commentator. Some confusion on the point might, indeed, arise, even in the minds of those who had read Herbart: for in certain cases the commentator has, without sign or warning, interpolated remarks of his own in Herbart's text.

"The reasons for translating and annotating Herbart's *Outlines* are, first, to present to the English-speaking public Herbart's latest, and also his most complete, work on education; and, second, to note . . . the advances made in educational thought since Herbart laid down his pen." Both aims are praiseworthy. It may be feared that the immediate effect of the book will be to increase the present lamentable Herbart-worship; but, after all, the better Herbart is known at first hand, the more truly will he, in the long run, be appreciated. As for execution: the first part of the translation is decidedly good, the latter part slovenly. The notes by Prof. de Garmo are of the practical or 'common-sense' kind; they have nothing of theoretical import, and show no sense of historical perspective. They vary greatly in value: some, by the sharp contrast of old and new, are really illuminating; many are platitudinous. "Combats of any kind between teacher and pupil are to be deplored," certainly, but it is hardly necessary to print the remark; and similar statements are all too common. The book is well indexed.

The Mental Life of the Monkeys. By E. L. Thorndike. *Psych. Review Mon. Suppl.*, No. 15. May, 1901. Pp. iv., 57. Price 50 c.

This paper describes a series of interesting, if somewhat fragmentary, observations upon three *Cebus* monkeys. The experiments were in part similar to those previously performed by the author upon dogs and cats. The monkeys show progress towards human mentality (1) in sensory equipment (focalised vision); (2) in motor equipment (co-ordination of hand and eye); (3) in instincts or inherited nervous connexions (general physical and mental activity); (4) in their method of learning or associative processes (quicker formation, greater number, delicacy, complexity and permanence of associations). In *method* of learning, however, the monkeys do not advance far beyond the generalised mammalian type; there is at any rate no large stock of 'free ideas' in the author's sense of definite and discriminated presentations.

The author, apologising for the lack of clearness and completeness of the monograph, finds his excuse in the inconstant and variable conduct of the monkeys themselves. We are grateful for what he has given us, and shall be glad to receive further instalments.

Notes on Child Study. By E. L. Thorndike. Columbia Univ. Contrib. to Phil., Psych. and Education, viii., 3-4, June, 1901. New York: The Macmillan Company. Price $1.00.

"These notes are printed primarily for the use of my classes . . . and are subject to revision. It is my intention to issue a new edition yearly. They are incomplete and ill-proportioned, and probably somewhat biassed

by the author's personal views." So runs the introductory statement, by which the critic is at first disarmed. A reading of the *Notes*, however, does much to cancel his favourable impression of the writer's modesty. It is to be regretted that he did not rest content with 'private circulation,' and wait a little before publishing. As it stands the work is not such as we have a right to expect from Dr. Thorndike.

A Text-book of Psychology for Secondary Schools. By D. Putnam. New York: Amer. Book Company, 1901. Pp. 300. Price 90 c.

This book represents the conscientious and painstaking work of a practical teacher. Nevertheless, it is precisely the type of book which the modern psychologist must regard as unfitted for secondary school use. It consists, almost entirely, in an analysis of concepts, and seeks to include within its 300 12mo pages a sketch of the nervous system, an analytic psychology, a logic and an ethics. Mind is defined, on the fifth page of the text, as "the Ego, the I myself; that which knows, feels and wills. We assume at the outset that there is a soul, that it is immaterial, that though intimately associated with matter it is distinct from matter." And where the pupil should be engaged in simple introspective exercises, he is given a surfeit of quotation: Ladd and James, Lindner and Scripture, Hall and Le Conte, Davis and Compayré, all figure in the first six pages! This is not the way to arouse interest in psychological problems.

The Principles of Human Knowledge. By George Berkeley. Edited by T. J. McCormack. Chicago: Open Court Publishing Company, 1901. Pp. xv., 128. Price 25 c.; 1s. 6d.

This volume of the Religion of Science Library contains a reprint of the *Principles* from the edition of 1734, together with the dedication and preface of the edition of 1710. There are, further, a facsimile of the title-page of the first edition, and a portrait of Berkeley by Smibert. The Editor's preface reproduces, with some additional remarks, the sketch of Berkeley's life and aims given in Lewes' *Biographical History of Philosophy* (1845). The publishers are doing good service with these cheap philosophical reprints: the books are light in hand, and the text clear. But the cover of the present volume is hideous.

The Art of Study: a Manual for Teachers and Students of the Science and the Art of Teaching. By B. A. Hinsdale. New York: American Book Co., 1900. Pp. 266. Price $1.00.

"The ultimate object of this book is to place the Art of Study as a tool or instrument in the hands of pupils and students in schools." In other words, it is an essay on the psychology of acquisition, written from the teacher's standpoint, and made as practical and as little technical as possible. Five of the twenty-two chapters are devoted to Attention, and one to the relations of Feeling to study and learning: the rest are rather pedagogical than psychological in character. The author follows James in his psychology, and the modern Herbartians in his educational doctrine. His theories do not always harmonise, as, indeed, is the rule in works upon applied psychology: but the discussions, on the whole, are clear and sensible, and the work should have a distinct sphere of usefulness.

An Experiment in Education: also the Ideas which Inspired It and Were Inspired by It. By. M. R. Alling-Aber. New York: Harper Bros., 1899. Pp. ix., 245. Price $1.25.

The aim of the author's 'experiment,' begun in 1881, was "to see if the child may not be introduced at once to the foundations of all learning —the natural and physical sciences, mathematics, literature, including language, and history—and at the same time be given a mastery of such elements of reading, writing, and number as usually constitute primary education". The chapters detailing the experiment itself are reprinted from the *Popular Science Monthly* for 1892, and are followed by discussions of the underlying ideas, of the teaching of special subjects, and of the 'atmosphere' of schoolrooms. The author remarks, with justifiable pride, that "all which her experiment was meant to demonstrate as feasible now bids fair to become the common usage in education". The book is of interest to students of applied psychology.

Three Dialogues between Hylas and Philonous. By George Berkeley. Chicago: Open Court Publ. Co., 1901. Pp. vii., 136. Price 25c.; 1s. 6d.

This is the latest number of the very useful series of Philosophical Reprints now in course of publication by the Open Court Company. It contains a portrait of Berkeley from the engraving by T. Cooke (the reprint of *The Principles of Human Knowledge* reproduced the picture by Smibert, now in Yale University); a brief editorial preface by T. J. McCormack, illustrating Berkeley's home in Rhode Island; a facsimile of the title-page of the original edition of 1713; the dedication and preface (omitted in the 1734 edition); and the text of the dialogues.

Le Problême de la Vie, Essai de Sociologie Générale. Par Louis Bourdeau. Paris: Félix Alcan, 1901.

The Problem of Life is a posthumous work of the well-known positivist teacher, Bourdeau, written when he was almost seventy years of age, but showing no falling-off either in intellectual vigour or in imaginative power. Its scope is of the widest—the nature of life, its cause, *raison d'être*, its end in the order of the world: the method is the well-worn one, so often the prelude to the wildest metaphysics, *viz.*, "the inductive extension of the sum total of best established knowledge" to the unknown beyond, the realm of probability: the hope is to found at once "a positive metaphysics," and "a scientific religion".

The first book—"Analysis of Individual Life"—is on familiar lines; it treats of the individual organism from the two standpoints of Somatism and Psychism, although psychical and physical are merely different attributes of being. On the Somatic side the general life of the organism is the sum of the particular lives of its constituent organs and parts, but at the same time "directs" the forces contained in these lives. There is, as the structure of the human body shows, an autoplastic, self-directing influence in each organism, a design pursued, a task realised. A series of fortuitous accidents would not account for any living body, but, underlying the growth of each there must be "a profound thought, which may be unconscious of itself, but is none the less real"—an internal and spontaneous finality. No conception seems to have been present as to the utter contradictions involved in these statements.

So on the psychic side, one soul is the collective expression of a

number of partial souls, those of the subordinate centres, which possess only a restricted consciousness. "The unconscious is the dark or night side of psychic life, giving only vague glimmers of light, and is none the less real, though more obscure, than the side brought into light by the full day of inward sense" (pp. 53, 54). Thus, with virtuous consistency, Bourdeau traces the psychic life of the individual to that of its constituent cells, then its plastides, its protoplasm, and finally to that of matter itself. The attraction and repulsion, action and reaction, everywhere manifest in "dead" matter, represent the beginnings, the elements of the animation (external and internal) that living nature reveals. In the simplest movement is expressed an active force, a tendency, a need felt, the germ of intelligence and will. Here is a bold principle, "As everything which lives *feels* itself live, so everything which is must *feel* itself being, under penalty of non-existence". This is a positivist induction!

In the second book—the "Synthesis of Collective Life"—Bourdeau's naïve metaphysics gives us a system to which one can hardly deny a tribute of admiration, however widely it seem to contrast with the method laid down at the beginning. Societies, the family, the crowd, the state, humanity—all these are new organisms whose members function in a common life, and constitute together a real being, a distinctive personality, with life, soul, passions, ideals, will, energy of action. With Izoulet, these beings are classed after protozoa and metazoa, as "hyperzoa"—their souls "hyperspirits"! The soul is not, however, any more than the soul of man, a substance—that *bête noire* of Positivism—but a "unified sum of psychic phenomena" (p. 110). Just as in us the conscious self is both the resultant and the synthesis of all the cellular consciousnesses, so the rational soul is the resultant and synthesis of all individual consciousnesses, dominating, co-ordinating, generalising their activities. Reason, by the way, is the soul of humanity: it is "an *ensemble* of psychic functions, co-ordinated," and so differs in some unexplained way from the concrete reality of "metaphysics" (p. 122). Humanity then is conscious of itself, has its ideal, its will-to-live, at which *we* can but guess: hence the gradually unfolding plan we observe in the life of the race, the spirit of the whole directs particular activities, "ranging them towards ends of which they are ignorant, causing the finalities *d'ensemble* to prevail over individual caprice".

Beyond humanity are still higher, more comprehensive organisms, or hyperzoa: the animal kingdom, then the world of all living things, animal and plant alike, then the earth as a whole. As life is a natural growth out of inorganic matter, the latter must possess in a *virtual* state all the phenomena of life, a latent life; and along with it a *virtual* principle of animation, a latent psychism. It is one and the same fund of spirituality, which, "imperceptible in the elements, indistinct in the mineral, dormant in the plant, awake in the animal, reflective in man, animates in diverse degrees all beings and excites them to action". So the terrestrial globe has a living soul, a powerful individuality, directing the actions of all living beings within it to a given end (p. 196): not, however, an extrinsic, pre-ordained end, a design formed *a priori*, executed *a posteriori*, but an intrinsic finality, concomitant with the effects it governs, exercised in every (higher) being through the organising power of its own elements (p. 78).

Next in order are of course the Solar System, the Interstellar System, the Nebular System, and highest of all Universal Nature, or the Ether, out of which all things have developed in an order which implies a guiding spirit, a fund, in the Ether, of *psychic virtuality*. The Ether

alone, in effect, possesses the attributes hitherto given to imaginary deities, of being "by itself," of determining and of directing all things (p. 243).

The Ethics suggested by the system is not of a more inspiring type than ordinary positivist schemes. Evil arises from the necessary conflict between the individual and the whole of which he forms a part, on the one hand, the parts of which he constitutes the whole, on the other. In man the conflict is between the spiritual ideal and the bodily needs, between the claims of different organs, of different mental faculties—"we pass from illusion to disgust, from enthusiasm to disenchantment, without meeting, among the innumerable aspects of beauty, any delights which endure, ever by the new seduced, pleased, deceived" (p. 290). The same conflict exists among the higher groups, only in the whole is there perfect harmony: what to the individual is evil, is to the whole an element of progress. Death, for example, is the renovator of nature, only the primordial substance and the One-all are eternal and infinite. Immortality of the individual, an elysium without evil, are alike illusions. Yet even for the individual, good is prepotent, a statement for which the only ground given is the curious one that individuals desire to live!

Bizarre, romantic as the system is, the work is not without its value, if only for the consistency (in inconsistency) and the boldness of the speculation it contains.

J. L. McIntyre.

Essai Critique sur le Droit d'Affirmer. Par Albert Leclère. Paris: Félix Alcan, 1901.

M. Leclère is of the school of Idealism which seems to flourish at present in France. His work is avowedly an attempt to revive Eleatism, as he understands it, the view, namely, that "non-being"—*i.e.*, the world of phenomena, including all the facts of psychology—is absolutely non-existent, that "what is" is the object of, and is one with, thought-in-itself, that the principle of identity is the only criterion of truth. The greater part (chapters iii. and iv.) deals with the contradictions which analysis of phenomena, as individuals, and as a whole, reveals. The idea of consciousness, of the empirical or individual consciousness, and along with it all ideas of phenomena, and hence (?) phenomena themselves, as spatial, temporal, numerical facts, are shown, in familiar Hegelian fashion, to imply either in themselves, or in their connexion with one another, insuperable difficulties. Thus science, as commonly known, is an illusion; if it existed, its object would not be the real. All mental activities alike, intuition as well as induction and deduction, are contradictory, self-negating processes, while their data are illusory.

In the constructive part of the work (chapters i. and v.—chapter ii. contains an exposition of Eleatism) there is more novel matter, although not easy to reconcile with the destructive part. *Truth* is what is posited as true, what is affirmed: affirmation is an act of the subject of which the immediate result is the idea that he, the subject, is in possession of truth. The certainty it gives is immediate and absolute, there can arise no question as to the *right* of affirmation. Truth always seems imposed on us from without—it is impersonal. Its subjective guarantee is the force with which the proposition is affirmed in us. Certitude is thus, literally, incommunicable, it is the result always of effort and of search, and cannot anticipate them. As in morals the secret of perfection is self-forgetfulness, so in speculation "the condition of certitude is the practice of thought without preoccupation about certitude" (p. 30).

So much being granted, the rest is easy ; the only idea which M. Leclère finds to survive critical destruction is the idea of *thought-in-itself*. Every affirmation appears as affirmation of a real truth, external to the thought which thinks it, not internal, subjective, floating: it springs from our will—not the free, reflective will, but—that profound will which appears to belong rather to our nature, than to ourselves, as the source of decrees proclaimed in us (p. 181). This 'real truth' is thought-in-itself, at first a pure form, but one which brings forth its own matter, if allowed free play. The sum of this matter, or content, is that Being is, that it is "in itself," *i.e.*, is activity; that it is "for itself," *i.e.*, is thought; that it is freedom and love. But thought, love, freedom constitute personality—Being then is personal. On the question whether there is one or many Beings, the author's dogmatism fails him: there is nothing contradictory in a plurality of beings, since there may be diversity of degree in thought, love, freedom, and in the heart of Being is an "indefinite spontaneity". His hypothesis is that there is one wholly independent, self-positing Being—God—and at the same time many Beings, receiving from God the power of positing themselves, and so of consenting to be voluntarily what the plan of God would have them to be: and so a comfortable opening is allowed for morality and Religion into the world of 'Reality'. But even Science is not wholly excluded, for by a curious twist, a 'partial' truth is found even in the facts of Science. There is no absolute error, every thought is truly true, although more or less. Contradiction is only in ideas, not in facts, which are independent: every activity of mind is legitimate, so long as it is possible: to be true, it has only to satisfy thought. All knowledges, apart from the one system, are to be considered not as so many variations upon the same theme, but as different airs having no real connexion among themselves (p. 209). How far this conception of knowledge is either satisfactory in itself or consistent with the author's own assertion that all science is pure illusion, pure nothing, it is hardly necessary to question.

J. L. McIntyre.

Saint Augustin. Par l'Abbé Jules Martin. Paris: Alcan, 1901. 8vo, pp. xvi., 403. Price 5 fr.

This work falls into three parts, of which the first is devoted to Knowledge; the second, to God; the third, to Nature. The author confines himself in the main to exposition, and travels but seldom, even for illustration, outside the writings of his subject. This method is not without its advantages, and has resulted in a very useful and interesting volume. At the same time, the student of philosophy will be most interested in the first book, which deals with Knowledge, and will be tempted to leave the remaining two books to professed theologians.

M. Martin is almost exclusively occupied with the attitude of mind which Augustine assumed upon his adoption of the Catholic faith, and to which he adhered, with little variation, until the end. But it would be profitable to consider at somewhat greater length than M. Martin has done, the history of Augustine's mind, and especially the sceptical temper with which he began. I think it might be said that he passed from one side to the other of the controversy which occupies the *Academica* of Cicero: a treatise very familiar to Augustine. The New Academy first claimed him with its balance of probabilities before he adopted the Stoic doctrine of the criterion of truth—that 'irresistible impression' which was accepted by him as fairly describing the way in

which truth announces itself. Again, he shook himself free of another tenet which comes more directly from Plato. At first he uses 'reminiscence' in order to explain the disclosure of ideal truth. Later he reduces 'reminiscence' to a metaphor. 'When we learn, we discover in ourselves, and *so to say* we bring to light buried doctrines' (p. 56). Instead of 'reminiscence,' Augustine speaks of an eternal reason through which truths are disclosed. 'The ignorant have present, so far as they can perceive it, the light of the eternal reason, and in this light they see these immovable truths' (*ib., cf. Conf.*, x., 10). And, in passing, we may note that Siebeck, in his *History of Psychology*, attaches undue importance to 'reminiscence' in his account of Augustine (i., ii., 390).

M. Martin does not seem to me successful when he attempts to find the unity of the soul clearly affirmed by Augustine (pp. 69 ff.). On the contrary, the unity of the soul is not attained except as it is concentrated upon an eternal object—a concentration which is imperfect in all experience as we have it (*cf.* p. 74). And here we may note Augustine's curious use of 'memoria' almost as a synonym for consciousness—'tanquam ipsa (sc. anima) sit sibi memoria sui' (p. 62).

I have dwelt rather upon topics which invite criticism, than upon the undoubted merits of M. Martin's volume. Let me say, in conclusion, that he furnishes himself the materials by which he may be criticised, and that, so far as I have been able to test the references, his translations are throughout felicitous, and his exposition, in the main, relevant and correct.

FRANK GRANGER.

Maine de Biran: Ein Beitrag zur Geschichte der Metaphysik und der Psychologie des Willens. Von ALFRED KÜHTMANN. Bremen: Max Nössler, 1901. Pp. viii., 195.

Both in this country and in Germany the study of the French philosophers who wrote during the latter part of the eighteenth century and the opening decades of the nineteenth seems for some time past to have been entirely out of fashion, and this interesting little essay is very welcome. Maine de Biran, if not the most important or influential of the writers indicated, was yet in some ways the most remarkable of them. Although irresolute in temperament and devoid of all the literary graces which usually distinguish his countrymen, he has asserted for himself a permanent position in the history of philosophy by the originality of his revolt against Condillac's doctrines and by his extraordinary foreshadowing of modern voluntarism. His great achievement was his theory of *l'effort voulu*, substituting will or mental activity in place of sensation as the fundamental concept in psychology, and therefore also, according to his view, in metaphysics. Dr. Kühtmann in a very interesting chapter compares De Biran first with Schopenhauer and then with Wundt. The resemblance is more close in the latter case, and it is especially striking since Wundt does not appear to be philosophically descended from the French writer. At the most, they are collaterally related, inasmuch as both can trace their pedigree back to Leibnitz.

Dr. Kühtmann's essay is clearly and easily written. The first and second chapters of it are introductory; the third gives an outline of Condillac's philosophy; the fourth and fifth and sixth deal with De Biran's own theories, and with his relationship to previous writers. These are followed by a biographical chapter, part of which would have been better placed at the beginning of the book. The author next deals with French criticisms on De Biran, then with related or similar views in

England (a rather thin chapter), and lastly with Schopenhauer and Wundt. The concluding chapters are critical and give an outline of the author's own view. The treatment of these various subjects is in no case exhaustive, but it is concise and to the point, and does not, except in one place, degenerate into mere sketchiness. That exception is the later part of the biographical chapter, which deals with his relations to contemporary thinkers like Cousin, Royer-Collard and Ampère. Misprints are unfortunately very frequent.

T. Loveday.

Nouvelles Recherches sur l'Esthétique et la Morale. Par J. P. Durand (de Gros). Paris: Félix Alcan, 1900. Pp. 275.

Most of the essays composing this volume were written, the author explains, some thirty years ago, and were intended to meet the urgent need for a scientific and constructive treatment of questions of morals. This need he believes to be no less urgent now, for in France the guidance of opinion on these questions is still divided between an unprogressive Catholicism on the one hand, and a merely negative and destructive positivism on the other, and the only result of the conflict is a weakening of moral convictions, since it is impossible to find satisfaction on either side. The leading ideas of the book can be stated very briefly. Regarding the treatment of æsthetic and moral sentiments as belonging to a wider theory of feeling in general, the author starts with an analysis of sensation. The actual sensation is the effect of three causes, *viz.*, the faculty or psychological cause, the organ or physiological cause, and the agent or physical cause. Of these three an objective æsthetic or theory of feeling is concerned primarily with the last, *i.e.*, with the normal objective causes of the differences of different feelings. Again, every sensation is accompanied (1) by a state of pleasure or pain, (2) by a more or less useful motor reaction, impelled by the pleasure or pain, and guided by the objective knowledge which the sensation affords. To the normal objective cause of pleasure in general the author gives the name of "the Beautiful," using this term in a very wide sense. And he then seeks to connect the directly pleasurable effect of the Beautiful with its utility, so that the Beautiful is that which, being directly pleasurable, is also either useful in itself or impels us to useful actions. A few essays are devoted to the illustration of this thesis. Then a similar application of the original analysis is made in the case of the moral sentiments, and it is affirmed that the feeling of duty has for its true objective cause the code of action of a normal society, *i.e.*, one which exists to secure the good of all its members. The miscellaneous essays which make up the last half of the volume deal, it is true, with points of morals, but have little or no bearing upon the thesis just mentioned. This outline may suffice to indicate the character and value of the book.

Le Mystère de Platon. Aglaophamos. By Louis Prat. Paris: Félix Alcan, 1901. Pp. xxii., 215.

M. Prat has apparently set himself to discuss the philosophic problems of the day in the form of Platonic dialogues supposed to have occurred in Plato's old age. In the present instalment, which is prefaced by M. Renouvier, Aglaophamos is the representative of Catholicism, the intrinsic contradictions of which are skilfully made to reveal themselves, Eudoxos (of Knidos) of scientific 'positivism,' Plato himself of 'Neo-

criticism'; while Kallikles (of the *Gorgias*) has been mellowed by age into an exponent of Renan's philosophic attitude. Whether M. Prat will succeed in overcoming the immense difficulties of the literary form he has adopted and in reaching results commensurate with the pains he has evidently taken, is a question on which it will perhaps be better to reserve judgment until he has completed the whole series of dialogues which he seems to contemplate. It may, however, not be impertinent to call his attention to the fact that the best kind of Platonic dialogue involves also a delineation of the character of the participants and does not disdain the aid of humour and fancy to enliven its high seriousness of purpose.

F. C. S. Schiller.

Zur Lehre von der Willensfreiheit in der Nichomachischen Ethik. Von Dr. Alfred Kastil. Prag, 1901. Pp. 44.

After a careful discussion and translation of the relevant passages in the *Ethics* the author comes to the well-known conclusion that Aristotle stops short of the point at which the problem of indeterminism arises. So does he. Indeed he abstains even from indicating the obscurities in Aristotelian doctrine which render it so interesting an example of a philosophy trembling on the verge of the 'free-will' problem.

Problemi Generali di Etica. Da Giovanni Vidari. Milano, 1901. Pp. xvi., 271.

The ethical problems dealt with in this thoughtful essay are problems of method. According to the author all genuine systems of morality assume that life has a positive value, or, as he prefers to put it, that it is a duty to live; and they assume also the existence of self-conscious individuals. Now these two assumptions demand for their justification a theory of the universe, either materialistic, pantheistic, or theistic; and in point of fact the older ethical systems were built on one or other of these foundations, and admit of a corresponding classification. But, just as in other branches of knowledge, we may provisionally ignore the necessity of a metaphysical basis and construct our ethical system inductively from the facts of experience. In this way we shall have a science as distinguished from a metaphysic of ethics. An examination of the facts of consciousness discloses the existence of an ideal of conduct, present to the thoughts and feelings of all men in all ages whence particular rules of conduct are derived. And here again the relative phenomena admit of being studied according to different methods. The older moralists, represented in a comparatively recent period by Mill and Bain, looked no further than the growth and structure of the individual mind for the genesis of morals. In contemporary philosophy this procedure has been completely superseded by the sociological method—the study of the ideal as it presents itself to the collective consciousness of the community, and as it is gradually transformed by the processes of historical evolution. Once more the sociological method subdivides itself into three distinct types, the biological represented by Herbert Spencer and Leslie Stephen, the economical by Marx, and the psychico-historical by Wundt and Baldwin. Finally the author gives his almost unqualified adhesion to the principles of Prof. Baldwin as, so far, the most illuminating of modern guides.

After studying the process by which the ethical ideal comes to be formed and recognised as such, we have to consider how ethics are organised into a system of positive teaching. Should the ideal take

shape as a theory of virtues, of duties, or of goods? Our author holds that all three points of view find their appropriate place in a complete moral philosophy. Virtue stands for the individual, duty for the social side of the ideal, while the final good is to be found in the synthesis and interpenetration of both. And the question whether morality should be looked on rather as a personal or as a social interest receives a similar solution. Morality is essentially social in so far as it springs from the relations between members of a community; while at the same time it is only realised in the self-consciousness of the individual soul. And the individual only realises himself as a moral agent in certain morally organised communities. In two of these, the Family and the State, the moral constitution is already complete; in two others, Society and Humanity, it is still in process of formation.

Since writing his prize-essay on Rosmini (reviewed in MIND for January, 1900), Prof. Vidari has made considerable progress. The mischievous paradox that the study of moral science should be entirely divorced from the practical teaching of morality has been completely though silently withdrawn and replaced by an opposite point of view. And if the theological implications of his former volume have not been abandoned at least they have receded into a remote and shadowy background. But his exposition is still hampered by the detestable Italian custom of dragging in references to the literature of the subject at every available opportunity—occasionally with the result of exhibiting the author's ignorance rather than his knowledge. For example the "inadmissibility of universal determinism as a philosophical foundation for morality" is by no means so generally conceded as he asserts (p. 43); and when in close connexion with this statement he proceeds to quote "Huxley and Kidd"—by the way our author should, to use a phrase of Nietzsche's, be more careful about his conjunctions—as having demonstrated that the "mechanical and biological conception of life is incapable of justifying duty," he seems to suggest, what is not true, that Huxley rejected the doctrine of determinism. Neither the Stoics nor Spinoza taught Universalistic Hedonism (p. 105). The author may be right when he tells us that individual conduct and action, taken in their totality, give no evidence of moral progress (p. 155); but he has no right to quote Buckle as an authority for this cheerless view of human nature. What Buckle denied was that there is any advance in the knowledge of moral truth—in other words he would have refused to admit that 'evolution of the ideal' to which Prof. Vidari would limit moral progress. Incidentally I may observe that to trace the transformations of organised hypocrisy through all history—for that after all is what this theory of ethical evolution amounts to—seems a singularly unattractive way of spending one's time. But to continue, Auguste Comte is strangely enough accused of holding that ideas, as distinguished from sentiments, move the world (p. 160); whereas he held, just as the author does, that the function of ideas is to guide, of sentiments to impel. Finally when our author attempts a little ethical history on his own account he blunders most conspicuously. It has been already mentioned that he distributes the subject-matter of ethics under the three heads of virtue, duty and good. Well, *a propos* of this classification, he informs us that the moralists of antiquity occupied themselves wholly with elaborating the conception of virtue; that the conception of duty first arose in the middle ages, and indeed could only arise at a time when morality was regarded as something supernaturally revealed and imposed; while the complete investigation of the good, suggested as it is by the conflict and comparison of different ideals, has been reserved for modern times. Is it possible that

Prof. Vidari has never been told the stories—whether true or false matters nothing—of Brutus and Regulus, that he has never read the *De Officiis*, or that he has never observed how the *Secunda Secundæ* of Aquinas and the vision of Dante, both countrymen of his own, are constructed on a scheme not of duties but of virtues and vices? The truth is that virtue, duty and good are all Greek conceptions and have only been further elaborated by building on foundations laid in Greece.

A. W. B.

Il Materialismo Psicofisico e La dottrina del Parallelismo in Psicologia. Da Filippo Masci. Napoli, 1901. Pp. 283.

By 'psycho-physical materialism' the author of this essay means the theory which 'attributes causality (solely) to the physical process, and considers the psychic process as an "epi-phenomenon"' (p. 219), that is as a collateral incident of nervous action on which it does not react. That is one kind of parallelism. Another kind is Spinoza's theory, according to which the two processes flow on side by side, neither interfering with the other. Both views are subjected to a minute criticism, and are finally rejected as irreconcilable with experience. A similar condemnation is passed on dualism, the theory which regards mind and matter as two distinct substances acting and reacting on one another. Signor Masci himself comes forward in support of what is known among English philosophers as the 'double-aspect' theory. Every manifestation of consciousness is accompanied by some form of nervous action involving an expenditure of energy, the two being related to one another neither as cause and effect, nor as independent concomitants, nor even as conjoint manifestations of a single substance, but as correlative and inseparable sides of one and the same event, manifest to itself as consciousness, manifest to a spectator as cerebration. Moreover, the mental side of the process is not limited to consciousness. There is such a thing as unconscious ideation and volition, proved to exist by our own experience, proved to be no mere cerebration by the fact that it can only be understood as such, that is as operating according to the laws of mind which are quite distinct from the laws of matter. We must assume that this subjective side is present in every act of animal vitality; probably it accompanies plant life also; and possibly it is even present to the specific energies of inorganic matter, but this last is a problem on which experience throws no light whatever.

Signor Masci has little claim to originality; nor does his advocacy of it tend to make the double-aspect theory more intelligible. If cerebration and ideation are the same thing why have they such contrasted laws? If spirit and matter, considered as distinct entities, are mere abstractions (p. 207) how can the inorganic world be conceived as possibly inanimate? Again, we are told that 'the physiological phenomenon is that aspect of the total phenomenon which is or might be the object of an outward observer' (p. 206). But this 'outward observer' is by hypothesis himself a phenomenon, so that we have to ask how one phenomenon can be the object of another; what is the difference between phenomena, aspects, and objects; under which heading 'externality' is to be placed; and finally how the two 'aspects,' internal and external, are to be conceived as united except in a *tertium quid*, which the hypothesis excludes, or by one of the things to be united, which is absurd.

'Psychic objects,' the author tells us, considered 'as fixed substrata of events do not exist' (p. 210). And he also holds that 'human personality is the psychic form of the existence of the human organism'; while

'spirit must be considered as the last product of organic evolution' (p. 263). From such Aristotelian doctrines no other conclusion can logically be drawn than Aristotle's own conclusion that the soul perishes with the organism. Nevertheless Signor Masci winds up his book with a highly rhetorical plea for a future life based entirely on sentimental grounds. One who so far forgets the duty of a philosopher should erase from his title-page the proud words of Spinoza, *non flere, non indignari, sed intelligere.*

A. W. B.

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VII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. x., No. 2. **G. S. Fullerton.** 'The Doctrine of Space and time. I. The Kantian Doctrine of Space.' [When Kant says that space is a necessary form of thought, and therefore that we cannot conceive the possibility of the non-existence of space, although we can easily conceive the non-existence of objects in space, he is leading us into a philosopher's fallacy: we are asked "to annihilate space, and yet keep in mind, so to speak, the place where it was". The argument that we cannot conceive of space as finite means, that we cannot conceive it as a whole in the space beyond which there is no further space, *i.e.*, is another philosophical quibble. With it falls the demonstration that the sensible world is unlimited in extent. Finally, as to infinite divisibility, Kant reasons "(1) that what is given in intuition must be composite, for, by the law of our sensibility, nothing can be given in intuition that is not composite; . . . and (2) he argues that it is subversive of mathematics to deny the infinite divisibility of what is given in intuition". Both arguments can be met.] **F. Thilly.** 'The Theory of Interaction.' ["Parallelists deny interaction, because they believe it contradicts the law of the conservation of energy, the causal law, and the law that no physical occurrence can have anything but a physical occurrence as its cause. But interaction does not contradict the first two laws, properly understood, and the last law is not true."] **A. K. Rogers.** 'The Neo-Hegelian "Self" and Subjective Idealism.' [The thought which is real for Hegelianism is the thought of an Absolute Self. Yet, by their language, the Hegelians are constantly slipping back into subjective idealism. They are seeking to prove two conclusions, which are not identical: that reality is rational, and that reality is a single all-inclusive consciousness. The valid element in their argument is the "reduction of objects to factors within a rational conscious whole". They show that "in opposition to sensationalism, human experience is no compound of unrelated feelings, but is objective from the start, *i.e.*, is constituted by thought-relations". But we must go on and ask further whether this apparent knowledge of ours tells us truth of a reality abiding beyond its transitory existence as an experience. The Hegelian resolutely refuses to catch sight of the problem: and the presumption is that the "consciousness or knowledge, of which he is continually speaking, is just the consciousness of the individual man". "In his desire to bring man and the world into harmony, Hegel has strained an argument, legitimate in its place, to an application which is not legitimate, unless he means to confine himself to the private experience of the individual; . . . his unqualified rejection of the independent existence of the world, and of the problem of epistemology, is mistaken."] 'Proceedings of the First Annual Meeting of the Western Philosophical Association, 1901.' Reviews of Books. Summaries of Articles. Notices of New Books. Notes. Vol. x., No. 3. **G. S. Fullerton.** 'The Doctrine of Space and Time. II. Difficulties connected with Kant's Doctrine of Space.' [Zeno's puzzle

cannot be resolved, if we grant its foundation: *cf.* Clifford's reasoning in 'Seeing and Thinking'. We may prove, in the same way, that a point on the periphery of a revolving disc is "all around the disc at once," when the disc revolves with infinite rapidity. We can prove, too, that the mind is in the pineal gland and, at the same time, in all parts of the body. The nonsense rests upon the nonsensical assumption that "an endless series can be completed by a progress which results in the attainment of a final term". We may avoid the fallacy by turning our minds from the whole subject: or we may quibble, saying that space is infinitely divisible, but not infinitely divided. Neither 'way out' is philosophical.] **G. N. Dolson.** 'The influence of Schopenhauer upon Friedrich Nietzsche.' [There is no great similarity in the theories of the two philosophers, and their interests were even more widely separated. What "attracted Nietzsche to Schopenhauer was a radical independence of tradition and public opinion". Schopenhauer "gloried in disagreeing with established authority . . . ; his manner of expressing his criticisms was often personal in its tone". Nietzsche controverted many of his views with great bitterness, but his strictures were never contemptuous. "The chief bond between the two men was that of a similar intellectual personality."] **E. Albee.** 'An Examination of Professor Sidgwick's Proof of Utilitarianism.' [Sidgwick's proof "equally involves the validity of his treatment of the three fundamental 'intuitions' and his hasty determination of the nature of the Good, which he holds that all of these intuitions imply". Justice is merely the postulate of objectivity or impartiality, epistemologically akin to the fundamental methodological postulates of the various sciences. As regards rational prudence and benevolence, (1) "the assumption of an original separateness between the interest of each individual and that of all others" cannot be conceded, and (2) "only the principle of rational prudence is really treated as a separate intuition, that of benevolence having been arrived at indirectly". Nor do these principles all imply a Good, still undetermined, of which they are to be regarded as 'distributive' principles.] **A. H. Lloyd.** 'A Study in the Logic of the Early Greek Philosophy. Pluralism: Empedocles and Democritus.' [In a finite pluralism—that of Empedocles —"(1) force as apart from mere substantial existence in the form of passive elements is a necessary supplementary or compensating conception; (2) this external arbitrary force is double, there being in reality two forces which counteract each other and give to the process of the universe a rhythmical character; and (3) the two forces have to figure as other elements, but other both quantitatively and qualitatively". There follows the infinite pluralism of Democritus. But infinity is a quantitative abstraction; as number or extension it is only formal. Hence the "elements cannot be real elements, nor the vacua or gaps real vacua, nor the external forces real external forces, nor even the rhythm a real alternation". In every case, the unreality or formal character shows itself in a paradox. The paradoxes are, however, "necessarily prophetic"; the mechanicalism which Democritus substituted for Empedocles' dynamism "was only a subtle disguise for something else," *i.e.*, for "relationism or organicism, the philosophy of evolution".] **D. Irons.** 'Natural Selection in Ethics'. ["The moral law does not enjoin survival, but performance of function regardless of all else. It is not evolved in the struggle for existence, for it is the supreme principle of the universe as manifested in the world of persons. It is an expression of the supreme principle which makes the universe a universe, and cannot be evolved by any process which goes on within the universe. . . . There is ethical as well as organic evolution. . . . The whole history of civilisation shows,

on the plane of objective fact, the working of this principle of moral selection. . . . A vanquished nation may conquer its conquerors if its civilisation is higher. . . . From the essential nature of evolution, moral evolution must be different from any form of organic evolution, since it holds, not in the region of mere life, but in the world of personality."] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

PSYCHOLOGICAL REVIEW. Vol. viii. No. 2. **G. T. W. Patrick.** 'The Psychology of Profanity.' ["Profanity is only to be understood by the genetic method, the point of departure being the growl of anger in the lower animal, which is . . . a serviceable form of reaction in cases of combat. It belongs, therefore, to a primitive form of vocalisation, . . . being one of several forms of speech preceding articulate language. . . . By a process of selection it chooses at all times those forms of phonation or those articulate words which are best adapted to terrify or shock the opponent. . . . The occasion of profanity at the present time may be any situation in which our well-being is threatened, as in helpless distress or disappointment. There is always, however, some object . . . against which the oath is directed."] **W. Fite.** 'Art, Industry and Science: a Suggestion towards a Psychological Definition of Art.' [The paper conceives of art and industry as successive phases in the development of impulse, and of art and science as similar phases in the development of cognition. (1) "The æsthetic or practical character of a want, the beautiful or useful character of an object, the artistic or industrial character of a form of activity, depends upon the extent to which it constitutes a fundamental feature in one's organised system of habits. . . . We have . . . a graded continuum, with the distinctively practical at one end, . . . and the purely æsthetic at the other." Again, (2) "whether an object be apprehended as a work of art or as a fact of science depends wholly upon the extent to which it is apprehended in analytic detail," *i.e.*, is also a matter merely of degree. This conception of beauty covers and brings into mutual relation the various proposed definitions of the beautiful.] **R. Dodge** and **T. S. Cline.** 'The Angle Velocity of Eye Movements.' [Critique of Volkmann, Lamansky, Delabarre-Huey. Description of new (photographic) apparatus. Movements to the left (arcs of 12° to 14°) occupied a mean time of $40{\cdot}9\sigma$; movements to the right (arcs of 2° to 7°), a mean time of $22{\cdot}9\sigma$.] Proceedings of the Ninth Annual Meeting of the American Psychological Association, 1900. Psychological Literature. New Books. Notes. Vol. viii., No. 3. **J. R. Angell** and **W. Fite.** 'The Monaural Localisation of Sound: from the Psychological Laboratory of the University of Chicago.' [Observations upon the capacity of localisation in a person entirely deaf in one ear. (1) The differences between binaural and monaural localising capacity are "interpretable as chiefly differences in the magnitude of the difference limen for locality, rather than as absolute differences in the kind of localising process involved". Only in the region directly opposite the deaf ear are the localisations markedly uncertain. (2) "Qualitative differences in the sounds coming from different directions" are the basis of localisation. (3) The presence of eye-reflexes was often noticed. (4) There is no evidence for the concernment of cutaneous sensations in the localising process.] **E. L. Thorndike** and **R. S. Woodworth.** 'The Influence of Improvement in One Mental Function upon the Efficiency of Other Functions.'—I. ["Our chief method was to test the efficiency of some function or functions, then to give training in some other function or functions until a certain amount of improvement was reached, and then to test the first function or set of functions," care being taken that no extrinsic factors were allowed to affect the tests. A sample

experiment is given, the results of which are summarised as follows. "The improvement in the estimation of rectangles of a certain shape is not equalled in the case of similar estimations of areas of different shapes. . . . Even after mental standards of certain limited areas have been acquired, the function of estimating with these standards constantly kept alive by noticing the real area after each judgment is a function largely independent of the function of estimating them with the standards fully acquired, . . . but not constantly renewed by so noticing the real areas." Still further "the ability to judge one magnitude is sometimes demonstrably better than the ability to judge the next magnitude; one function is better developed than its neighbour. The functions of judging nearly equal magnitudes are, sometimes at least, largely separate and independent."] **W. M. Urban.** 'The Problem of a "Logic of the Emotions" and "Affective Memory."'—I. [An attempt to trace the genesis of the 'emotional abstract,' and to find the constant element in generic affective states. "Those affective states which bear the marks of abstraction—concept feelings, sentiments and moods—are characterised in general by lower hedonic intensity and by qualitative indefiniteness, and yet their unitary quality stands out strongly. . . . The process of abstraction consists of the bringing into prominence by selective attention of a fundamental quality (the 'dynamic constant') other than the varying elements. . . . The first stage of this generalising process is then the generic emotion itself . . . made up of a number of motor tendencies manifesting themselves in consciousness in various organic sensations, qualitatively different, but each group having the common dynamic constant. . . . Still more generic phases of emotionalism . . . may be looked upon as complexes of a higher order, as assimilations of varying emotional tendencies on the basis of their dynamic constancy." The 'dynamic constant' itself is "a relatively permanent system of intensities and of temporal and rhythmic relationships among the organic sensations of an emotional reaction," *i.e.*, is a *fundierter inhalt*. It affords a basis in psychology for a doctrine of values.] **J. M. Gillette.** 'Multiple After-images.' **E. F. Buchner** *et al.* 'Disclaimer No. 2.' Psychological Literature. New Books. Notes.

American Journal of Psychology. Vol. xii., No. 2. **H. H. Foster.** 'The Necessity for a New Standpoint in Sleep Theories.' [Historical review of the circulation theories, the chemical theories (combustion and auto-intoxication), and the histological theories of sleep. Approach to the problem from the evolutionary standpoint. (1) "Sleep results from the limited capacity of the organism to receive and respond to stimuli, either through *fatigue* or through *lack of development*. Both factors are internal. The relation of each to function can be traced along chemical, histological and vasomotor lines." (2) A second question concerns the operation of selection upon sleep, and the rise of secondary determining factors. To note are the primary rhythm of the nervous system; blood supply; conscious adaptation to the conditions most favourable to sleep; attention. (3) Sleep falls under the general heading of nervous rhythms as the period of rest, not (as Manacéine says) of consciousness, but of the support or vehicle of consciousness. The cessation of consciousness is an integral feature of the sleeping state. Bibliography.] **M. F. McClure.** 'A "Colour Illusion".' [Repetition and extension of Ladd's experiments with coloured strips upon variously coloured backgrounds. Rejection of explanation in terms of fatigue, and substitution for this of contrast and local adaptation (Hering). There is really no 'illusion' involved.] **L. Hempstead.** 'The Perception of Visual Form.' [In looking at forms liminally different from their back-

ground, we continue lines and complete figures under the principles of symmetry and similarity; we also round angles and ignore certain lines altogether. Our subjective idea of the number, form and position of the component lines is indefinite, and is again guided by the principles of symmetry and similarity. Each observer has certain habits of illusion, or typical modes of associative completion.] **W. C. Bagley.** 'On the Correlation of Mental and Motor Ability in School Children.' [A general inverse relation was found between motor and mental ability: clever children, with quick reaction times, are not the best developed physically, not the strongest, and not endowed with the greatest power of motor control. There is little relation between class standing and reaction time, except that excellence in either goes with deficiency of motor ability. Motor ability increases with age more markedly than mental ability. There is a tendency to inverse relation of mental ability and head girth.] **W. S. Small.** 'Experimental Study of the Mental Processes of the Rat.'—II. [Tests of white rats in mazes on the Hampton Court pattern: *cf.* the home-burrow of the kangaroo rat. The white rat is less vigorous and hardy than the wild rat; he has sloughed off some of his native furtiveness and timidity; but his senses (except sight) are as keen, his characteristic rat-traits as persistent, and his mental adaptation as considerable. "Animal intelligence works almost exclusively by the trial and error method"; *cf.* young children. The question of animal reasoning is still treated by the author as a question of the 'perception of relations'. First among the sensations, in order of importance, stand the tactual-motor; then come hearing and smell (the "effect of smell sensations is general and emotional"); sight is least of all relied upon (control experiments were made with a blind rat).] **A. J. Kinnaman.** 'A Comparison of Judgments for Weights Lifted with the Hand and Foot.' ["The difference in sensibility of the hand and foot beyond 1,200 gr. is very small. The larger difference with the lighter standards may be due to finer *dermal* discrimination in the hand than in the foot." As regards method, "standard sensations play an important *rôle* in a series of like judgments"; and "the second test of the series is judged better than any others". Attempt to estimate the relative value of focal and marginal factors in judgment: "the influx of marginal sensations, and transposition of focal sensations, . . . seems to have been most marked at from 800 to 1,200 gr.". Interferences of sensation may arise either from distraction or from fusion: the latter is evidenced by the insinuation of arm-weight into the weight of the standard as the latter increases. Bibliography.] Psychological Literature. Books received.

International Journal of Ethics. Vol. xi., No. 4. **H. Rutgers Marshall.** 'Our relations with the Lower Races.' [The commonwealth of nations is similar to a civic commonwealth, in that the lower units must have as much free development as possible. The lowest races must not be crushed out of existence; for they may develop into something higher than the races which at present are highest. This refutes imperialism.] **R. A. Bray.** 'Unity of Spirit as the Basis of a National Church.' [Religious teachers ought to combine to combat Commercialism. Their combination must not be based on unity of purpose, nor of belief, but of spirit. This spirit must be an enthusiasm of humanity.] **C. M. Bakewell.** 'A Democratic Philosopher and His Work.' [An appreciation of the late Thomas Davidson.] **J. R. MacDonald.** 'The Propaganda of Civilisation.' [Civilisation is propagated among barbarians by improving the rudiments of it which they already possess; not by imposing on them a Western civilisation which does not suit them and has its own failings.

We can do most for civilisation by raising our own lower classes.] **W. P. Ker.** 'Imagination and Judgment.' [They are usually contrasted; but, as a fact, imagination supplies what is best in morality, politics, science and history. It does not annul common experience, but perfects it.] **E. G. Dexter.** 'Ethics and the Weather.' [An estimate of the effect of meteorological conditions on moral behaviour based on American criminal statistics. The conditions act indirectly by raising or lowering vital energies.] Discussions. 'The Moral Problems of War,' in reply to Mr. J. M. Robertson, by **D. G. Ritchie.** 'A Reply to the Foregoing,' by **J. M. Robertson.** Book Reviews.

Revue de Métaphysique et de Morale. 9e année, No. 2. Mars, 1901. **G. Tarde.** 'L'action des faits futurs.' [Written more than twenty-three years ago, and containing conclusions which the author would not now accept. Points out very clearly that scientific laws would all apply equally well to cases different from any which actually occur; and that therefore, to account for what does occur, we must also always have recourse to other actual occurrences—*facts*. But, since future occurrences are connected with the present by exactly the same necessary laws as are past occurrences, why do we always regard the past alone as *explaining* the present? and are we right? M. Tarde argues that it is a mere prejudice, proceeding from the fact that we never realise so clearly that nothing can hinder the future from being what it is to be as that the past is unalterable; we do not realise that *future contingents* are as impossible as *past*, because the past is what we know best, and from which we have to make our inferences. He simply assumes that because the future is equally necessarily related to the present, it therefore has the *same* relation to it as the past, namely, that which we call '*action on*': consequently he immediately contradicts himself when he argues that it is contradictory to suppose the relation of a thing to *what it will do, i.e.*, to what follows it, reversed. He goes on to argue that it is a mistake to regard what is called *normal* development as if it alone exhibited finality (to which he now gives also an eulogistic sense); that it is precisely in the *highest* forms of life, where the influence of the past is most marked (habit, heredity), that the influence of the future (correlation of organs to a common end) is so too, etc., etc.; and, finally, that the root of the prejudice against explanations by the future lies in the error of 'sacrificing the importance . . . of the complex, the different, the individual, . . . to the importance of the simple, the identical.'] **E. Le Roy.** 'Un positivisme nouveau.' [There has lately arisen a new 'Criticism,' which maintains the 'primacy of activity' as against the 'positivism' of the middle of the nineteenth century, which maintained the 'primacy of reason' = 'Intellectualism': the author's object is (1) to justify this criticism; (2) to show that it is not sceptical but leads to a new positivism. (1) No one scientific *theory* is *truer* than another; it is only that some suit better than others those habits of thought which constitute 'common sense'. Scientific *laws* are mere *definitions*: the mind can 'decree scientific results' capriciously; *for* it may choose any of the infinite conclusions which are not self-contradictory; only some of them would not accord with common sense. Scientific *facts* are '*made by the scientist who recognises them*'; and one is more valuable than another, only if it helps us to reason or act more easily. (2) The 'intellectualist' objection that this theory is sceptical, fails to recognise that it does not make scientific truth consist in a 'mere verbal decree,' but makes its value, as *knowledge*, consist in the 'power of inner life it contains'. There follow nine 'theses' of the new criticism, which show it to be a positivism; whence we learn: That necessary

laws are arbitrary *only* from a purely logical point of view, but yet are not quite necessary from any point of view: and that 'We know nowadays' that 'the greater apparent value of Euclidian Geometry . . . is at bottom only our practical preference for solids, the mark and effect of our corporeal structure'. Perhaps the view that our 'corporeal structure makes us prefer solids' is itself an effect of our corporeal structure, and therefore false? Or does it contain too much power of inner life?] **J. Wilbois.** 'L'esprit positif.' [Surpasses M. Le Roy's article in the confidence and fervour with which it preaches the vague absurdities of 'the new philosophy'. The Introduction informs us that 'In our time it has been minutely proved' that 'the mind manufactures scientific facts, by long processes of artifice'; that 'Nobody questions any longer,' but that 'the spirit of positivism is a spirit of relativism'; but that the fundamental fact that it is 'a spirit of life' is less generally recognised: what 'life' means the author can't define, but 'the intuition' of its meaning may be conveyed by what follows, to those who have undergone, or judge it worth while to undergo, the necessary 'disciplines'. What follows is a first chapter on 'The positive spirit in the formation and use of the principles of physics'. This is divided into four parts: (1) Those who 'don't possess the intuition of principles' are described. (2) Principles may be analysed into two elements, which are 'indissolubly united'; (*a*) the 'relative element,' 'a form under which' a principle is a convenient 'tool'; (*b*) the 'independent element,' 'an exterior *truth*'. These are illustrated by examples, and an excellent literary description of the psychology of discovery follows, which we are told might be transformed into a *logic*, which, unlike Mill's, would consist in 'moral rules'. Two laws are given: Scientific progress is made by proceeding in the direction (*a*) of the artificial, (*b*) of the contradictory. (3) Principles are (*a*) alive, (*b*) each-dependent, in its life, on all the rest, (*c*) immortal. They combine the contrary characters that they are (*a*) 'our own decrees,' (*b*) 'variable with experience,' (*c*) 'directed by action'. (4) 'The intuition of principles' cannot be attained either by the 'intellectual' or by the 'æsthetic' method. The true method must, like them, be 'regressive,' in order to remove the influence of *corporeal*, *industrial* and *rational* action; but, unlike them, it must be itself an activity which transcends these three forms of action: it is a self-sacrificing inner life, which is objective, in the truest sense ('what can become common to all'), because it alone is 'truly contagious'.] Études Critiques. Questions Pratiques. New Books, etc.

Revue Néo-Scolastique. No. 27. **J. Halleux.** 'L'hypothèse évolutionniste en Morale.' [The evolution hypothesis has not confined itself to the purely scientific domain. It has given birth to a new conception of the Moral Order. M. Halleux in the present article commences an examination of the evolution theory as applied to Morals. Taking Mr. Herbert Spencer as his guide, he sets forth the views of the Evolution school on the nature and definition of conduct, the evolution of conduct, the basis of the distinction between good and evil, or, in other words, the criterium of morality, together with the criticisms of Mr. Spencer on the theological, legist, intuitionist and utilitarian theories of Morals, all of which theories, in Mr. Spencer's opinion, seek for the basis of morality elsewhere than in the nature of things. M. Halleux will discuss these views and criticisms in later articles. But, meanwhile, he states in passing that Mr. Spencer has misapprehended the principles of theological morality.] **A. Thiéry** ('Le Tonal de la parole') explains the various experiments that have been made with the view to ascertaining

the pitch and establishing the melody of the human voice, considered as an organ not of song but of speech, and exhibits various species of notation that have been invented for the recording of this pitch and melody. His treatment of the subject is highly technical and likely to be appreciated only by skilled musicians. But musicians will probably follow his researches with interest. **D. Mercier** ('Le bilan philosophique du xix^e^ siècle: suite et fin') maintains that philosophy is the most complete explanation possible of the universal order. The sciences, each of them working in some particular field of knowledge, lay the foundation of this work of explanation. Philosophy, following after the sciences, profits by their acquisitions, and undertakes the task of establishing amongst the various branches of human knowledge a logical subordination which shall be the certain and accurate expression of the sum of the contents of consciousness. Philosophy is thus the natural development of science. Hence by reason of the progress of science in recent years, no time has been so well fitted as the present for the elaboration of philosophy.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxvi., Heft 5 und 6. **G. Heymans.** 'Untersuchungen über psychische Hemmung.'—II. [Continuation of the study published in number xxi., page 321. Experiments (pressure and sight) with affection of different areas of the sensory surface by 'active' and 'passive' stimuli of the same quality. The same general result follows as from the mixed action of stimuli of different quality upon the same sensory area: weaker sensations are inhibited by stronger, in a degree proportionate to the intensity of the stronger. Theoretical conclusions: (1) *the relation between stimulus and sensation.* The facts of inhibition are of a psychological, not of a physiological character. The question whether sensations increase proportionally to the stimuli or to the logarithms of the stimuli thus seem to call for answer in terms of the former alternative. (2) *The inhibition of difference-sensations by sensations (Weber's Law).* Weber's Law must be distinguished from the logarithmic law, which is Fechner's interpretation of it. Many objections have been raised against the latter (objections of Hering, of Merkel and Ament, facts of inhibition; validity of Weber's law outside the sphere of sensation intensities; Fechner's assumption of the difference limen, and recourse to auxiliary hypotheses for the explanation of upper and lower deviations). "I regard the difference limen as a phenomenon of inhibition, and Weber's Law as a special (or limiting) case of the first law of inhibition, *i.e.*, the law of proportionality between inhibiting and inhibited stimulus magnitudes." Discussion of the difference limen, the general contents of Weber's law, the limits of its validity, and the upper and lower deviations from it. (3) *The weakening of difference-sensations by sensations (Merkel's and Ament's experiments).* Elaborate analysis of the experimental results of Merkel, Ament and Angell (method of mean gradations); their explanation in terms of the law of inhibition.] **F. Kiesow** und **R. Hahn.** 'Beobachtungen über die Empfindlichkeit der hinteren Theile des Mundraumes für Tast-, Schmerz-, Temperatur- und Geschmacksreize.' [Exploration of the surfaces of the uvula, tonsils and palatal arches with stimuli for pressure, pain, temperature, space perception, tickling and taste. Only a few results can be mentioned here. (1) The buccal cavity contains, besides areas which are sensitive to pressure but not to pain, structures which possess sensitivity to pain but none to pressure (*cf.* Von Frey's results on conjunctiva and cornea). (2) Von Frey's statement that pain sensation is to be measured in units of pressure (gr./mm.^{2}) and not of tension (gr./mm.) is confirmed. (3) The tonsils are sensitive to cold, warmth

and pain; the uvula shows a great reduction of pain and warmth sensitivity. (4) The sensation of heat appears in areas which are lacking in cold spots; it may also arise by radiation, from thermally stimulated pain spots (against Alrutz). (5) The uvula is not sensitive to taste. The same thing holds, at least in general, of the tonsils and the palatal arches.] Literaturbericht. Erwiederung. [Reply to criticism, by H. Raeck.]

PHILOSOPHISCHE STUDIEN. Bd. xvii., Heft 2. **F. Krueger.** 'Zur Theorie der Combinationstöne.' [(1) Two simultaneously sounding tones give rise for perception, as a general rule, to a summation tone and four or five difference tones. These combination tones and their consequences (beats, intermediate tones, etc.) are all alike independent of the existence of overtones in the primary clang. (2) All beats are referable to the existence of at least two neighbouring tones, *i.e.*, tones not more than a major third apart; Koenig's multiple beats do not exist. (3) Koenig's beat tones are not the only combination tones. Certain difference tones lie between the primaries. (4) There are only two kinds of combination tones: difference tones and summation tones. The distinction between beat tones and difference tones is not borne out by the facts. It is to be explained historically as due to a neglect of the dissonances, and a consequent erroneous generalisation of certain differences of intensity among difference tones. (5) Hermann's middle tones, and Riemann's undertones and subjective overtones, do not exist. (6) All attempts so far made to replace by other hypotheses the Ohm theory of analysis, and the Helmholtz-Hensen resonance theory based upon it, meet with great intrinsic difficulties and (or) contradict acoustical experience. (7) The objections urged against the Helmholtz theory of audition, including that of the interruption tones, are not binding. (8) Helmholtz' explanation of the subjunctive combination tones is unsatisfactory. (9) The physiological theory of these tones need not pass beyond the bounds of the resonance hypothesis. The attempt should be made, first of all, to apply Helmholtz' theory of the objective combination tones to the processes occurring in the internal ear during the perception of subjective combination tones.]

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Bd. vii., Heft 3. **F. Staudinger.** 'Empirische und rationale Methode in der Philosophie.' [A criticism of the System der Werttheorie of Ehrenfels. Ehrenfels confuses the genetic and analytic points. Hence his untenable doctrine that the value of anything consists in its being desired. The value of anything really consists in its being a means to an end which is part of a unified system of ends. The same fallacy affects Ehrenfels' view of ethical appreciation as directed merely to feelings and feeling dispositions. A good article.] **B. Erdmann.** 'Die psychologischen Grundlagen der Beziehungen zwischen Sprechen und Denken.' [Diagrammatic representation of the series of apperceptive fusions which take place in understanding speech, in repetition of what others say, in speaking oneself, in the internal speech of silent thought, in reading and in writing. Three stages of the development of language are carefully distinguished, and the difference between auditive, motor and visual types is throughout kept in view. A very elaborate, conscientious and valuable piece of work.] **Paul Natorp.** 'Zu den logischen Grundlagen der Neueren Mathematik.' [A criticism of Russell's *Foundations of Geometry*. Russell's work is rendered incoherent by its concession to the empirical or "definitional" point of view. The Euclidean constitution of space follows from its homogeneousness and continuity when these principles are applied to "direction" as well as to quantity.] **F. Jodl.** 'Jahresbericht üb. Erscheinungen d. Ethik a. d. Jahren 1897 und 1898.' **R. Stammler.**

'Bericht über Deutsche Schriften zur Rechtsphilosophie 1894-98.' Bd. vii., Heft 4. **B. Erdmann.** 'Die psychologischen Grundlagen der Beziehungen zwischen Sprechen und Denken' (conclusion). [Gives symbolic representation of the physiological correlates of the processes analysed in previous article. Should be especially useful to student of aphasia.] **R. Stammler.** 'Bericht über deutsche Schriften zur Rechtsphilosophie, 1894-98.' Bibliographie der gesamten philosophischen Literatur (1900).

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Bd. xxv., Heft 3. **J. W. A. Hickson.** 'Der Kausalbegriff in der Neueren Philosophie und in den Naturwissenschaften von Hume bis Robert Mayer,' Art. iv. [Mayer's own logical justification of the conservation of energy is satisfactory, and it is the only one that is satisfactory. This law alone gives to the causal principle a form which is scientifically valuable and defensible.] **J. Petzoldt.** 'Solipsismus auf praktischem Gebiet.' [Criticism of Döring's *Güterlehre*. According to Döring action can be reasonable and therefore right only if it is based on an estimate of its value to the agent himself. Thus for Döring the fundamental principle of ethics is egoistic eudæmonism. Petzoldt criticises on well-known lines. He insists on the logical parallelism of Döring's doctrine with theoretical solipsism.] Heft 5. **Hans Kleinpeter.** 'J. B. Stallo als Erkenntniss Kritiken.' [A good exposition and appreciation. Stallo is shown to anticipate Mach and similar writers in essential points.] **J. W. A. Hickson.** 'Der Kausalbegriff,' etc. (concluded). [Cause and ground. Causality and agency. The concept of action in its relation to time. Occasion. The reciprocity of cause and effect. Physical causality and the teleological interpretation of biological phenomena. The article contains among other interesting matter some good criticism of Bradley. The whole series of articles deserves attention.] **Paul Barth.** 'Zum Gedächtniss des Nicolaus Cusanus.'

PHILOSOPHISCHES JAHRBUCH. Bd. xiv., Heft 2. **F. X. Pfeifer.** 'Gibt es in menschen unbewusste psychische Vorgänge?' [In this article the writer maintains the existence of unconscious mental facts or processes. 'Unconscious' comprises whatever cannot possibly be noticed, and it has a wider scope than 'not attended to'. The twofoldness of things seen is a mental fact, but it cannot be noticed. So is the compound nature of vowels, etc. These are not directly perceived but known by means of other perceptions.] **H. Schell.** 'Das erkenntnisstheorische Problem.' [This paper, answering the question how we get from Seeming to Being, affirms the active character of presentation, and the causative nature of its contents; the first proves the reality of the Ego, the second the reality of what the Ego perceives.] **J. Donat.** 'Zur Frage über den Begriff des Schönen.' [The author concludes by denying that beauty is 'perfection taken as the object of an intellectual tendency'. Its elements are intellectual, but they are the object of love and desire, therefore of the will.] **E. Rolf.** 'Neue Untersuchung über die platonischen Ideen.' [The controversy is continued between the writer and Zeller, the former attempting to explain certain passages in the *Timæus* and the *Republic*, and to prove by others that Plato did not attribute to his Ideas a separate self-existence, but only meant in general to assert the reality of an ideal world.] Bd. xiv., Heft 3. **M. Maiser.** 'Die neuen Strahlungen und die physikalische Constitution der Ponderablen Materie.' [This paper, following step by step the latest theories and discoveries as concerns molecule and atoms, concludes that the tendency is towards infinite divisibility of matter, since we find molecules made of atoms, and atoms of *electrons*. He notes the similarity between Lord

Kelvin's vortex-atom theory and that of matter and form.] **H. Sträter.** 'Ein modernes Moralsystem.' [This article is an attack upon Wundt's system of ethics, and firstly in the present number the writer refutes his idea of the Will and of consciousness, of motive and of freedom. Motives do not account for the whole causality of a human act. Character, whether individual or given by the family or by society cannot explain the feeling of freedom. Wundt's determinism destroys all responsibility.] **Ch. Willems.** 'Die obersten Seins- und Denkgesetze,' etc. [This is the first of a series of articles expounding the principles of contradiction, of excluded middle, of sufficient reason, and of causality, according to Aristotle and Aquinas. Here the writer begins by the law of causality, and points out at length how Aquinas understood it, quoting chiefly from his proofs of God's existence.] **G. Gretmann.** 'Nachmals über den Begriff des Schönen.' [The writer answers several objections of Father Jungmann to a preceding article of his in the *Jahrbuch*, and refers at length to Aquinas and Suarez in support of his theory.] **N. von Seeland.** 'Über das Wo der Seele.' [It is a mistake to think that the soul, being immaterial, is nowhere in space. Its functions being, among others, to act on the body, to feel, etc., it is where it acts, *i.e.*, where the body is.]

Rivista Filosofica. Anno ii., Vol. iii., Fasc. iii. May-June, 1900. **R. Mariano.** 'Religione e Religioni.' **G. Romano.** 'Gli studi storici in Italia allo stato presente in rapporto alla natura e all' ufficio della Storiografia.' **D. Jaja.** 'L'enigma della coscienza.' **R. Bobba.** 'Appunti bibliografici intorno ad alcune opere contemporanee relative alla Filosofia di Aristotele.' Rassegna Bibliografica. Notizie. Sommari delle Riviste Straniere. Libri ricevuti. Fasc. iv., September-October, 1900. **F. Bonatelli.** 'La Psycologie di D. Mercier.' **R. Mariano.** 'Religione e Religione' (Parte IIª, ed ultima). **F. De Sarlo.** 'La metafisica dell' esperienza dell' Hodgson' (Iª parte). **F. Cosentini.** 'La nozione di progresso nella filosofia sociale contemporanea.' Rassegna Bibliografica, etc. Anno iii., vol. iv., Fasc. i. January-February, 1901. **A. Faggi.** 'Attraverso la Geometria.' **E. Sacchi.** 'Giacomo Leopardi come uomo, poeta e pensatore.' **A. Franzoni.** 'La morale utilitaria di Stuart Mill esposta dal Prof. G. Zuccante.' **A. Gnesotto.** 'Interesse e disinteresse nei sentimenti ed in particolare nei sentimenti morali.' Rassegna Bibliografica. Rassegna di Psicologia. Rassegna di Riviste Straniere. La morte di Giuseppe Verdi. Pro Philosophia. Notizie e Publicazioni. Sommari delle Riviste Straniere. Libri ricevuti. Per le onoranze a Gioberti. Fasc. ii. March-April. **F. Bonatelli.** 'Il Movimento Prammatistico.' **A. Franzoni.** 'Vincenzo Gioberti nella Storia della Pedagogia.' **F. Enriques.** 'Sulla spiegazione psicologica dei postulati della Geometria.' **N. Fornelli.** 'Il Fondamento dell' Esperienza nella Pedagogia Herbartiana.' **G. Buonamici.** 'L'Antico e il Moderno nella Filosofia del secolo xx.' Lettera inedita di Vincenzo Gioberti. Rassegna Bibliografica. Il Centenario di Vincenzo Gioberti a Torino. Sguardo generale alle Riviste Italiane. Notizie e Pubblicazioni. Sommari delle Riviste Straniere. Libri ricevuti. Fasc. iv. September-October, 1901. **G. Allievo.** 'La Psicologia filosofica di fronte alla Psicologia fenomenistica.' **De Sarlo.** 'Scienza e Coscienza.' Rassegna Bibliografica, etc.

VIII.—NOTES.

MIND ASSOCIATION.

THE Annual General Meeting of the Association was held on 2nd November last in Balliol College. It was resolved that the Editor be empowered to engage an assistant at a salary not exceeding £20 per annum and that the General Meeting next year be held in Cambridge. Prof. Bain and Mrs. Sidgwick were elected honorary life-members of the Association. The following is the full list of officers and members :—

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE COMMENSURABILITY OF ALL VALUES.

By Rev. H. Rashdall.

In a previous article I have endeavoured to defend the possibility of a hedonistic calculus. I maintained that it was psychologically possible to compare different lots of pleasures and to say which, on the whole, duration and intensity being both taken into account, was the greatest. If that be admitted, the fashioning of life in such a way as to attain either for oneself or for society a greatest quantum of pleasure becomes a possible and intelligible aim of life. It is possible to aim consistently at doing what will promote the greatest pleasure on the whole. At the same time I hold that such a conception of the ethical end would be a false one. I do not propose in the present essay to argue against Hedonism. Suffice it to say that while I do regard pleasure as *a* good, I do not regard it as *the* good. It seems to me perfectly clear that the moral consciousness does pronounce some good to be higher, or intrinsically more valuable than others; and that at the head of these goods comes virtue, while many other things—intellectual cultivation of various kinds, æsthetic cultivation, emotion of various kinds—are also good and of more intrinsic value than mere pleasure. It is true that pleasure is an element in every state of consciousness to which we assign ultimate value. I can attach no meaning whatever to the proposition, "I find this picture supremely beautiful, and yet it gives me no pleasure to look at it: as far as pleasure is concerned, I would just as soon contemplate a blank wall for half an

hour together." Even with regard to virtue, it is difficult to answer the question whether I should judge virtue to possess value, if it gave me no sort of pleasure or satisfaction. The belief in *a priori* judgments of value must not be interpreted to mean that we can see what in detail is good for human nature apart from the actual psychical and emotional constitution of human nature. If a being could exist (the very supposition doubtless involves an absurd abstraction) capable of appreciating the idea of duty, and yet not merely actually indifferent to the doing of duty, but for ever by the very constitution of his nature incapable of deriving the smallest amount of pleasure or satisfaction from the performance of duty by himself or another, I do not know that I would attach any meaning to the assertion "Virtue is to such a being a good". Pleasure is an element in everything to which we attach value: and yet we do not attach value to consciousness in proportion to its pleasantness: pleasure differs in kind or quality; and pleasure is not the only element in consciousness which is good. As I endeavoured to show in my last article, this amounts to the assertion that something else in consciousness possesses value besides its pleasantness: there are other goods besides pleasure. On what principle then are we to choose between these different kinds of good? It is to my mind a perfectly clear deliverance of the moral consciousness, that nothing can be right or wrong except in so far as it tends to produce a good, and that when we have to choose between goods, it is always right to choose the greater good. Such a doctrine implies that goods of all kinds can be compared, that we can place goods of all kinds on a single scale, and assign to each its value relatively to the rest. The defence of this assumption is the object of the present paper.

In the first place I must begin by distinguishing between two different senses in which it may be asserted that goods of different kinds are commensurable. It may mean that a certain amount of one good can be regarded as a sufficient and satisfactory substitute for the other, so that however superior virtue may be to culture, a sufficient amount of culture could be regarded as an entirely satisfactory compensation for the absence of all virtue: that given enough sensual pleasure, the absence of either virtue or culture would cease to be an object of regret. If this were the only possible meaning of the commensurability of heterogeneous goods, I should fully sympathise with the assertion that the value of the higher goods (particularly of virtue) is incommensurable with that of anything else. But that is

not the only possible meaning of our assertion. It may mean only that when we have to choose between a higher and a lower good, *when we cannot have both*, we can compare them, and pronounce that one possesses more value than the other.

And this is the only possible interpretation of the formula which is open to those who hold that no one of the competing goods, not even virtue, is by itself *the* good. The true good of a human life does not consist either in virtue only, or in knowledge only, or in pleasure only. I altogether decline to pronounce *εὐδαίμων*, a man who has enjoyed twenty years of unbroken virtue in a loathsome dungeon, cut off from books or human society, and afflicted by perpetual toothache or a succession of other tortures. Such a man has not attained the true end of his being. He may be much more *εὐδαίμων* than the successful sinner, but his lot cannot be pronounced a wholly desirable one; he is "blessed" for his goodness, but he is not altogether "blessed". Equally little would any abundance and variety of sensual pleasures make me attach high value to the life of a stupid sensualist; nor will any amount of refinement or intellectual enjoyment induce me to regard as supremely desirable the life of a Borgia or even a Goethe. No amount of one kind of good can compensate for the absence of the other. But when circumstances make it impossible for me to secure for myself or for others all these kinds of good, then I can and must decide which of them I regard as best worth having; and that implies that *for the purpose of choosing between them* they are commensurable.

It is quite true, as will be indignantly protested in some quarters, that each of these "goods" taken by itself is an abstraction. No one of them can exist wholly without the other, or at least without the opposite of the other. Pleasure cannot exist—at least for a human being—without some kind or measure of knowledge or intellectual activity. Knowledge can hardly be supposed ever to be accompanied by no kind or sort of pleasure, though the pleasure may in some cases be greatly outweighed by attendant pains.

And, if you stripped off from a human being all activity of thought (even that implied in the most mechanical occupation, or the most humdrum routine of duty), and all feeling of satisfaction at one thing rather than another, it would be difficult to see wherein the virtue of such a being could consist. It is not upon each one of these things taken by itself that we pronounce our judgments of value, but upon each of them taken as an element in a whole. Our ideal of

human life is not a certain amount of the higher goods mechanically added on to a certain amount of lower goods, but a connected whole in which each is made different by its connexion with the others. It is not virtue + pleasure, or knowledge + pleasure that we desire for man, but that he may be virtuous and find pleasure in his virtuous activities, that he may study and enjoy his studies, that he may enjoy the pleasures of eating and drinking, but enjoy them in such a way and degree as may be conducive to the development of his higher nature, and consistent with the highest good of his fellows. But, when through unfavourable circumstances this ideal is not realisable, we can distinguish between the various elements in a human life and form a judgment as to which of them seems to be most important—a large amount of this, or a small amount of that? If we were not thus capable of distinguishing between various elements in human life,[1] all thinking or talking about the moral ideal, or indeed about practical aims or objects of any kind, would be estopped. And if, when we have distinguished them, we are not to say which of them is best and to act upon our answer, there is an end to the possibility of any ethical system that admits that the morality of an act depends upon its consequences. The latter admission is now generally made by the most anti-hedonistic writers. There is a general consensus—to use an expression which Prof. Paulsen [2] has introduced in this connexion—that Ethics must be 'teleological,' though not hedonistic And this admission seems absolutely to carry with it the further concession that all values must be, in the sense defined, commensurable. If the morality of an act depends upon the value of all its consequences taken together, we must be able to say which of two sets of consequences possesses the most value; and, if different kinds of consequences are to have any weight assigned to them, we must be able to attribute more or less weight to each of them. To deny this seems to amount to the denial that there is any one fixed and consistent meaning in the word value or worth, or good, and

[1] It is true, of course, as has been admitted above, that we never get one element wholly apart from the other. The greediest *bon-vivant*, with his attention wholly concentrated on his food, is thinking of something, and the student absorbed in his books may be enjoying the carnal pleasure of sitting in a comfortable chair, but we may make abstraction of these things sufficiently to ask "Which is best—eating or study?"

[2] In *A System of Ethics* (English Translation by Tilly)—a work which forms the best, though avowedly a somewhat popular, exposition of the general view of Ethics which is presupposed in this article.

to make impossible any system of Ethics which is based upon this conception.

The only way of escaping the admission that different kinds of good are commensurable would be to assert that it is always right to choose the highest. Now (if we assume that virtue is the highest of goods) this contention involves all the difficulties of the formalistic Ethics (to use the term which Prof. Paulsen has used as the opposite of "teleological") of Kant. If nothing in the world possesses value except the good will, we cut ourselves off from the possibility of assigning a rational ground for regarding one volition as better than another. To use the stock criticism, a will that wills nothing but itself has no content. The term 'right' is meaningless except in reference to the good. The good will may possess infinitely more value than any consequence that it wills, but unless that consequence be good, the will cannot be good either. Charity is no doubt better than the feeding of the hungry, but unless the feeding of the hungry be good, there is no reason for applying the word good to the charitable act. To deny that anything possesses value but a good will (which Kant after all did not do), is to deny that such a thing as a good will is possible. The attempt may, indeed, be made to escape the force of this criticism by pleading that it is only where some lower good is incompatible with some higher good that it must be treated as possessing no value at all. Now, in the first place, it seems difficult to understand the admission that when we assign some value to the lower and a value to the higher which always overweighs any conceivable amount of the former, we are not in a sense treating them as commensurable: we do in a sense measure the value of the one against the other, even when we pronounce that their values are related as finite quantities are related to infinity. But the main question is whether we do always pronounce that the smallest quantity of the higher is worth more than the largest quantity of the lower. And here it is obvious that the appeal can only be to the actual moral judgments of mankind.

So long as I confine myself to my own virtue, it seems clear that it can never be right for me to prefer any quantity of a lower good to the doing of my own duty. And if goodness, morality, a rightly directed will, be the thing of highest value in the world (as in my view the moral consciousness unhesitatingly affirms) I shall always be choosing the greatest good for myself by doing my duty. If in any case it is right or reasonable for me to choose a lower good rather than a higher one, then *eo ipso* I shall not be violating my

duty by pursuing it, and therefore I shall not be postponing morality to anything which is not morality. The principle that all values are commensurable can never in practice bring the morality of any individual into competition with any other good, so long as his own voluntary acts alone are concerned. It can never compel us to say "For an adequate quantity of some other good it is reasonable for me to commit a sin". So much results from a mere analysis of the idea of duty.

But can we say that there are no cases in which we have in judging of the effect of our conduct upon others to institute comparisons between the intrinsic worth of goodness and the intrinsic worth of other and lower goods—knowledge, culture, bodily pleasure, immunity from pain? Can we say that it is always right to regard the very smallest amount of moral good—in that sense of moral good in which one man's moral goodness may be increased and diminished by the act of another—as preferable to the utmost conceivable quantity of any lower good? It seems to me that to maintain that such is always our duty would involve an austerity or rigorism by which few would even pretend to guide their ethical judgments outside the pages of an ethical treatise. Take the case contemplated by Cardinal Newman. Cardinal Newman in defending himself against the charge of depreciating veracity because lying is only, according to Roman Catholic Moral Theology, a venial sin, has laid it down that it would be better for millions of the human race to expire in extremest agony than for a single human soul to be guilty of the slightest venial sin. Mr. Lecky has declined to endorse this tremendous judgment.[1] And, I believe, few who in the least realise the meaning of the words which they are using would do so either. And what does this mean but that we judge that a little morality (so far as morality may be the result of another's conduct) possesses less value than an immense quantity of freedom from pleasure or the absence of a vast quantity of pleasure—that it is from the point of view of Reason more important that so many thousand people should not suffer torments than that one man should not commit a small sin.

It will perhaps be objected that such a case could not occur; but such a contention would, it seems to me, betray an extraordinary blindness to some of the most difficult practical problems with which we are confronted every day of our lives. I have a limited sum of money to spend on charity.

[1] *Hist. of Europe*, "Morals" (1899), i., p. 111.

I believe that spiritual good can be promoted by efficient curates, and that intellectual good can be promoted by education, and that pain can be saved by hospitals. Shall I give it to an Additional Curates' Society, or to education, or to a hospital? I have a son who wishes to get into the Indian Civil Service. Shall I send him to a "crammer's," which (in his particular case) may give him the best chance of getting in, or to a public school and university, which will be best for his moral and intellectual well-being? A problem more exactly resembling the hypothetical case propounded by Newman arises when some great material benefit can only be obtained by the bribery of an official. Few people would hesitate to bribe a Chinese Mandarin to be unfaithful to his superiors, a traitor to his country, disloyal very possibly to his own highest ideal (which may enjoin relentless hostility to foreigners) in order to set free a score or so of Europeans who would otherwise be exposed to torture and death. By such an act I should distinctly be causing a small amount of moral evil in order to produce a large amount of hedonistic good.

Such an admission could only be escaped if we were to adopt the extravagant position sometimes taken up by extreme libertarians—the position that moral evil in one can never be made better or worse by the action of another. The admission that in some cases it is right to prefer a larger amount of lower good to a smaller amount of a higher in no way involves, be it observed, the principle "to do a great right do a little wrong". The individual must himself always do right: the moral evil that he causes is not even a little wrong in him, if (as the view I am defending maintains) it is right for him to cause in another this little moral evil rather than be the cause of an immense amount of undeserved physical suffering. And I fail to see how moral judgments which could in practice be assented to and acted upon by the holiest of mankind can be explained or justified upon any other view.

There are, I must freely admit, very many more cases in which I am certain that the accepted morality of our time and country implies some such preference of much lower to a little higher good than there are cases in which I am certain that such a preference is really justifiable. We compel large masses of young men to remain unmarried, well knowing the moral consequences which are likely to ensue from such a state of things, because we hold that the country must be defended and that it would be too expensive to allow all soldiers to marry. We allow the children of the working classes to be withdrawn from school at the age of twelve or

thirteen, though no one doubts that they would benefit morally and intellectually by staying till sixteen, because we think it would be too great a strain upon the resources of the country and of the individual parents (here, now, for the moment, under existing social and economic conditions) to compel them to keep the children at school so long. In other words, we think that the enjoyment of luxuries by rich taxpayers, of culture by the educated, of comforts by poor taxpayers, of the necessaries of life by poor parents is of more intrinsic importance than the higher moral and intellectual advancement of the children. I need not pursue such illustrations further. There is, in fact, no single expenditure of money —public or private—upon material enjoyment which goes beyond the bare necessaries of life when we might spend it upon some higher object which can justify itself upon the theory that it is never right to promote lower good when we could promote ever so little of some higher good.

It is quite true, and it is important to remember, that the opposition between higher and lower good is seldom so absolute as has been here assumed. It is seldom, in such practical problems, that all the higher good is on one side and all the lower good on the other. When we insist that, given certain circumstances, the claims of national defence must take precedence of education, and even of certain branches of personal morality, in so far as morality can be promoted or hindered by external influences, we may plead that we attach importance to national defence, not only in the interests of commerce and material well-being, but in the interests of national independence, national character, and international morality. When we refuse to burden poor parents beyond a certain point for the education of their children, it may be suggested that further pressure would involve the semi-starvation of the children, which would not be ultimately in the interests of their moral and intellectual well-being. And, more generally, we may contend that a certain indulgence of the lower appetites and desires of human nature—an indulgence going considerably beyond the paramount requirements of health—is in average men more conducive to moral well-being than a semi-compulsory asceticism with the inevitable reaction which such asceticism ultimately provokes. All this is very true; but still we cannot, as it seems to me, avoid the admission that in some cases the balance of moral good is on one side, and of the lower on the other. Give that bribe and the moral character of your Mandarin will have taken a downward turn: withhold it and twenty European men, women and children will die in

torture and dishonour. It is only a fanatic to whom the small deterioration of our Mandarin, *ex hypothesi* not a character of the highest order, will seem a more valuable end than the saving of twenty European lives with all their possibilities of happiness. It may be said that there are possibilities of goodness also. Then let us suppose that death is unavoidable, and that it is only a question of torture. No doubt the prevention of injustice may have good moral effects. But these are vague possibilities as contrasted with the certain moral evil of our corrupting the Mandarin with all the incidental moral evil which that corruption carries with it. Our moral judgment is not really determined by these vague possibilities. We really think it more important to spare so much suffering than to avoid the slight deterioration of one Mandarin's character.

For the agent himself it can never, we have admitted, be right to prefer his own lower to his higher good, for the simple reason that to do right is always his own highest good. And yet, even in considering one's own moral good, there may be cases in which it may be right, just in order to do our duty, to adopt a course of action which may be likely on the whole to have an injurious effect on one's own character, in that sense of character in which a man is made better or worse by influences not under the immediate control of his own will. It may sometimes be right for a man to adopt a profession which in the long run may have a lowering effect upon his ideals and upon his conduct, in preference to one which would be likely to have a more elevating influence: or in innumerable other ways to face temptations which he does not know that he will always be able to resist rather than to purchase his own moral purity at the cost of other people's well-being. Our own future well-being, in so far as it lies beyond our own immediate control, is in the same position as other people's moral well-being—to be weighed against the other kinds of good, and assigned a value which, though enormously transcending that of lower goods, cannot be held to be absolutely incommensurable with them. But still, this admission does not involve any abandonment of our previous contention—that it can never be right for a man to do an immediately wrong act for the sake of any other advantage to himself or others. By choosing the greater good, he has done his duty (even in choosing a course which may in the long run react in some ways unfavourably upon his own character), and by doing his duty he has chosen the greatest good for himself. He would have become a worse man by taking the opposite course.

So far, we have been comparing the value of morality or character with that of all other goods. When we come to the weighing of higher goods other than the highest—of intellectual and æsthetic goods for instance—against the lower, there will be perhaps less objection to admit that a small amount of the higher may sometimes have to give way to a large amount of the lower. At all events the task of showing that that is the principle upon which ordinary good men act is here an easy one. Some of the instances already given will serve to illustrate this case also—the sacrifice of education to health and comfort, the spending of national money upon armies and guns instead of universities, libraries, and scientific expeditions, the cutting down of the British Museum grant in the interest of the South African War. However much we may regret and condemn the indifference which Parliaments and Governments in this country (more than in any other in the world) show to such intellectual objects, few of us would be prepared to push the expenditure of public moneys upon them to a point which would on the material side lower the standard of comfort to the level of bare health and subsistence. And here few of us will scruple to admit that it is not only in conduct affecting others, but in conduct affecting primarily only ourselves that we act, and feel that we do right in acting, upon the principle that the quantity as well as the quality of various heterogeneous goods must be taken into account in choosing between them. We feel that art is higher than comfort and good eating, but we do not feel bound to lower our standard of comfort below a certain point in order to buy books and pictures. We recognise that study is intrinsically more valuable than ordinary conversation, but we feel justified in spending on the enjoyment of society a considerable amount of time which might be spent upon study. We acknowledge the claim of culture, but we do not feel bound to pursue culture when it would interfere beyond a certain point with health and comfort and the ordinary enjoyment of life—an enjoyment consisting in the following out of natural tastes, and inclinations which, however harmless, we cannot upon reflexion pronounce to have a high intrinsic value. We may admit on reflexion that we do not care for and pursue our own intellectual improvement as much as we ought to do, but in our most serious moments of self-examination we hold that it is sometimes lawful to spend half an hour upon some lower amusement without proving that the giving up of that amusement would injuriously affect our health or cause some other evil than the mere loss

of that amusement. In such cases there is indeed no great disproportion between the amount of the higher and lower goods. If we think of cases where the disproportion would be very great, the verdict of the practical reason will be still more unhesitating. If we had to weigh the sufferings of some thousand tortured rabbits against the purely intellectual gain of some theoretically unimportant and practically unfruitful piece of scientific knowledge, or a woman's heart broken and her life wrecked against the scientific or æsthetic advantage to a philosopher or a novelist in being enabled the better to analyse the passion of love—in cases like these there will be little doubt what the verdict will be on the part of any person of common humanity not sophisticated by the gospel of self-realisation.[1]

All these judgments then imply that we do actually weigh very heterogeneous goods against one another, and decide which possesses most value, and in making that estimate we do take into consideration the amount of the two kinds of good as well as the quality. We do hold that a little of some higher good is too dearly bought by the sacrifice of a lower one, and, on the other hand, that a very small quantity of one good is worth a great deal of another. If a facetious opponent forthwith challenges us to produce a graduated table of goods, a tariff by reference to which we may at once say how much toothache ought to outweigh the culture implied in the reading of a play of Shakespeare, the answer is the one which the opponent will probably urge against the whole scheme—that there are no means of measuring with exactitude such things as culture or charity, and, again, that the value of a 'good' is relative to many circumstances. The reading of a play of Shakespeare may be an intellectual revolution—the beginning of a new intellectual (and it may be) moral life to one man, while to another it will be of no more value than the same number of pages of Marie Corelli. But, as I have so often had occasion to point out, the impossibility of reducing to numerical precision judgments of this kind does not imply that the judgments are not made or that they are not quantitative. It is only in quite recent times that mechanical methods were invented for instituting exact comparisons between lights of different strength: yet, long before such methods were invented, men judged that one light was stronger — much stronger, moderately stronger or a little stronger—than another light, and acted on their judgments.

[1] I have nothing to say about vivisection, duly regulated, in the interests of Humanity.

A little ingenuity might perhaps find cases in which we could with some meaning say that one higher good possessed twice the intrinsic value possessed by another. But I admitted that even in comparing pleasures, and pleasures of the same order, such exact measurements were rarely possible and never of use. It is a characteristic of these higher goods that their value, or rather the value of their objective source or cause, varies with circumstances more even than is the case with simple physical pleasures and pains. And therefore here the attempt to find cases in which such a mensuration might have a meaning is too far removed from anything which actually takes place in our practical life to be worth attempting, even by way of playfully illustrating the quantitative character of these judgments.

There is one really formidable objection to the position taken up in this and my former article which I must attempt briefly to meet. Some of those who strongly hold that all goods can be compared, that 'value' must always have the same meaning, and that the moral way of deciding between two alternative courses of action is to ask "By doing which shall I produce good of most value?" will object to the distinction which has here been drawn between pleasure-value and value of a higher kind. It has been assumed that we sometimes say "This course will produce the most pleasure, but the pleasure is not sufficient to outweigh the evil of another kind which is involved in it: the course which produces least pleasure will produce most good". But it may be urged that if we are really to be faithful to our doctrine that all values are comparable, we must refuse to recognise any but one kind of value: and that if we reject the doctrine that pleasure is the only thing that has value, we cannot really compare states of consciousness as pleasures, and then override that judgment by a second valuation as goods. "The ideal or rational standard of comparison," it may be said, "is the only one. Whether it is pleasure or culture or morality that we are comparing, all that we can do is to say which appears to us to be worth most." I have some sympathy with the spirit in which this objection is made. For I freely confess that I find it impossible to get hold either of a satisfactory definition of pleasure or to distinguish in any sharp or scientific way between pleasure and that higher kind of value which, though doubtless normally accompanied by more or less of pleasure, is not (for the developed moral consciousness) measured in terms of pleasure. It is easy to show how wildly wide of the mark are most of the definitions of pleasure which have been put forth by eminent

authorities. After each of them one exclaims, "Well, whatever I mean by pleasure, it is certainly not that". And yet I cannot easily bring myself to believe that pleasure is simply a *vox nihili*, for nothing less than that would be the logical consequence of saying "Pleasure does not = value: we can compare values but we cannot compare pleasures". It has been fully and frankly admitted that pleasure is an abstraction, that it is one particular aspect of consciousness, but it is not the only one. Now I do not think that it is possible to define what this aspect is sufficiently to mark it off with absolute precision from those other aspects which we have in view in pronouncing upon the absolute or ultimate value of some state of a conscious being. And yet it is certain that it does represent one of the aspects under which we are practically in the habit of considering and valuing such states.

I tremble at the thought of putting forth a new definition of pleasure and protest that what follows is not intended as a definition: but I venture to suggest that, when we try to estimate the value of a state of a consciousness as pleasure, we are thinking of its value simply as immediate feeling, abstracting as much as possible from all reference to the higher parts of our nature. Our appreciation of the value of duty depends not merely upon the immediate feeling that accompanies the doing of duty: that is the "moral sense" view of the matter which (as Hume has shown once for all), when fully thought out, ends in Hedonism. It depends upon our appreciation of the relation between this present consciousness of ours and our own past and our own future, upon our consciousness of our relation as persons with other persons, upon the presence of all sorts of desires and aspirations which go beyond the moment—beyond even our own consciousness at all. The same may be applied in a modified degree to our estimate of the value of intellectual or æsthetic cultivation. All these things are put aside when we estimate our consciousness simply as present feeling. This is most clearly seen in the case of those conscious states which have no value except what they have simply as so much pleasant feeling. If we found that the drinking of a certain liquid not required for purposes of health was not satisfactory simply in and for itself, we should pronounce it to have no value at all. It would be easy and tempting to essay a definition of pleasure by making it consist in the satisfaction of our lower as distinct from the satisfaction of our higher desires. But this will not express what we really mean by pleasure. It is something which

the lower sources of satisfaction have in common with the higher. When we compare the glow of self-satisfaction which *sometimes* attends a conquest over temptation, we feel at once that the resulting feeling has something in common with the state of mind into which we are put on other occasions by a glass of port wine. It is this something which we seek to indicate by the term pleasure. And yet I do not feel that the value of that good will of ours is dependent upon the satisfactoriness of the present feeling, or of any future succession of such feelings. Apart from that we judge that it has value, and indeed it is this recognition of its value which is the cause, or at least one condition of the pleasure—quite otherwise than in the case of the port; *there* we could not say what value it has till we taste it, and if we do not like the taste, it has no value at all. To the man who desires goodness, or cares about doing his duty, the doing of it must bring some pleasure, for there is pleasure in the satisfaction of all desire; and it would be (as I have admitted), meaningless to ask whether we should attach value to morality for a being who was for ever incapable of feeling, or being brought to feel, any such satisfaction in good conduct. But we can equally little assert that the value of the good act depends upon the amount of the resulting pleasure. For while a good act must bring pleasure to him who has any sense of its value, the amount of the pleasure is dependent upon very many other things than the amount of the good will—upon health, temperament, spirits, surrounding circumstances of all kinds. But these variations in the actual pleasantness of the good exercises no influence upon our judgment of the higher value which goodness possesses, as compared with the drinking of good wine. We judge that goodness has a pleasure-value which may be compared with the pleasure-value of champagne, which may sometimes exceed, and sometimes fall short of that value, but that it possesses beside a value of its own which it does not share with the champagne. We are brought back at last to the simple fact of consciousness. The only way of defending the possibility of a judgment, or the existence of a category, is to show that we do actually think in that way; and it is clear to me that either (1) the attempt to analyse all value into pleasure-value, or (2) to analyse pleasure-value into value in general, or (3) to deny that sometimes we are driven to compare pleasure-value with some higher kind of value fails to represent the actual deliverance of our moral consciousness.

If the view which we have taken of the relation of the

idea of pleasure to the idea of value be well founded, it will be obvious why, from the nature of the case, no sharp distinction can be drawn between them. Among the things to which we attach no value some appeal so entirely to the higher or rational part of our nature that, except for the bare fact that they do satisfy desire, they seem to have nothing in common with the lower. When a man does his duty at the cost of toil and suffering, it is so exclusively the higher part of his nature that impels him to the sacrifice that we should feel it unnatural to say that it is merely the pleasure to which he attaches value. This higher nature of his is, indeed, so closely connected with his lower that it is impossible that the satisfaction of that higher impulse can fail to excite some pleasant feeling, but it is not valued simply as feeling. On the other hand, the mere 'prick of sense' ceases to have value when it ceases to give pleasure. The vast majority of those states of consciousness to which we attach value are intermediate between the two cases. They appeal to our higher and to our lower nature at the same time. The performance of duty, even at the sacrifice of much that under other circumstances would be valued, the activity of our intellect in an interesting profession or an interesting study, social intercourse with those whom we really care for—all these under favourable circumstances are accompanied by feeling of a kind which has much in common with the feeling that one gets from bathing or basking in the sunshine. They appeal to the higher and to the lower part of our nature at one and the same time. It would be ridiculous to talk as if we valued them simply as pleasures; for we feel that, when through unfavourable circumstances, or interfering unpleasantness, they practically cease to appeal to the lower nature at all, we value them still. It would be equally impossible to pronounce that our judgment of their value is wholly independent of that which they have in common with the merely animal satisfactions. In these cases it is practically impossible to say how much of the value is due to one source and how much to the other. If we supposed the lower side of this satisfactoriness progressively diminished, it would be virtually impossible to say exactly when we have reached the point at which we have ceased to prefer them as pleasant states of mind, and now prefer them only as states of mind which we value apart from their pleasurableness. It is only when we attempt by a violent effort of analysis to compare the higher and the lower simply from the same point of view that we do actually distinguish between the value of our mental condition on the whole

and its value as pleasure. And such efforts, being seldom useful, are seldom made. It is only when the higher and the lower elements of interest get violently separated—when the value which some object of desire has for us as rational and reflecting beings gets very far removed from the value which it has for us as merely sensitive beings,[1] that it becomes natural to say "We prefer this to that, but we do not prefer it simply as pleasure". And it is probable that in practice different people use this term 'pleasure' with considerable differences of meaning. Some people, even among philosophers, seem to be unable to dissociate the term pleasure from bodily indulgences: the existence of high-minded Hedonists seems to show that some people really use it almost or entirely in the sense of 'intrinsically valuable consciousness'. On the whole, then, it is clear to me that we cannot do without this distinction between value and pleasure. To merge the idea of value in that of pleasure practically involves all the fallacies of Hedonism; to merge the idea of pleasure in that of value involves the refusal to distinguish different elements in the supremely valuable kind of conscious life which the moral consciousness undoubtedly does distinguish. Practically we cannot get on without both the ideas of value and that of pleasure. Yet it may be admitted that the idea of value belongs to the language of strict philosophical thought: the idea of pleasure rather to the region of the popular conceptions, which the philosopher must take account of, which he is bound to use but which are from their very nature incapable of exact definition, and which, therefore, must necessarily be used without exact scientific precision. We want a term to express that in value which is common to the higher and the lower states of consciousness, in which we recognise value: but, just because higher and lower shade off into one another, pleasure must needs shade off into something that is not pleasure. We may speak of pleasure as the value which feeling possesses simply as feeling; but just because feeling does not exist apart from the other elements in consciousness, but is one aspect of an indivisible reality—the thinking, feeling, willing self—it is impossible sharply to distinguish the value which we attach to consciousness simply as feeling from the value which we attach to it because it satisfies our rational nature: for the lover kind of satisfaction often depends upon and arises from our consciousness of the highest kind of value. Enthusiasm for an idea—religious or other—may

[1] Of course we are never in reality *merely* sensitive.

produce some of the emotional and some of the physical effects of the keenest sensual enjoyment. It will no doubt be urged that Philosophy has nothing to do with such a vague and indefinable conception; but a Philosophy which fails to take account of the vague and inadequate language in which alone it is possible to express our moral experience must be a Philosophy which deliberately refuses to deal with one side—and that the most important and fundamental side—of that spiritual experience in which Reality consists. It is all very well to protest against abstractions, but without abstractions there is no thought. A Philosophy that would avoid abstractions must be speechless: and the moral Philosophy of some of my friends would seem to be practically speechless except in so far as it indulges in occasional outbursts of abuse or contempt for those who humbly endeavour to put their moral convictions into intelligible words. It is right no doubt to protest against "one-sided abstractions"; but every abstraction must be one-sided while it is actually being made. The only way to neutralise the abstraction involved in looking at one side of a thing apart from the other side is to look at the other side also at another time. I trust that in insisting on the indispensability of the distinction between the pleasure-aspect and other aspects of consciousness, and in contending that both have value, though one has a higher value than the other, I have not violated this doubtless important principle.

To develop further, and to defend, the view of Ethics which finds the moral criterion of our action in its tendency to promote for society at large an ideal which includes an ascending scale of goods[1] ranging from mere sensual gratification up to the good-will itself, would lead us beyond the scope of the present article. My object has been merely to defend it from one particular line of preliminary objection.

[1] I take this expression from the theologian Ritschl whose view of Ethics also includes all these goods, as well as the effort to promote them, in his conception of the Kingdom of God: "The task of the Kingdom of God includes likewise all labour in which our lordship over nature is exercised for the maintenance, ordering, and furtherance even of the bodily side of human life. For unless activities such as these are ultimately to end in antisocial egoism, or in materialistic overestimate of their immediate results, they must be judged in the light of those ends which, in ascending series, represent the social, spiritual and moral ideal of man" (*The Christian Doctrine of Justification and Reconciliation*, Eng. Trans., 1900, p. 612).

II.—A CRITIQUE OF KANT'S ETHICS.[1]

By Felix Adler.

In the preface to the second edition of the *Kritik of Pure Reason* Kant says: "It behooved me to destroy knowledge (that is, the presumed knowledge of transcendental truths) in order to make way for belief". His moral belief was founded on his ethical theory. This theory it is the purpose of my paper to subject to criticism.

The task of honest criticism is difficult. The popular adage tells us that it is hard to see ourselves as others see us. It is no less hard to see another in the manner in which he sees himself, to enter into his mental world, to put one's self mentally in his place, to see the objects of his thought in the same illumination in which they present themselves to his inner eye. Yet, without thus stripping off one's own personality, as it were, without some such preliminary act of self-renunciation, without a willingness to learn from another, nay, almost, for the time being, to become that other, the business of the critic is hopeless from the first. Nor ought these remarks to appear superfluous to any one who remembers the fate encountered by the Kantian philosophy at the hands of many of his interpreters. The greatness of this extraordinary thinker has indeed been acknowledged by all. But, after some preliminary tributes to his genius, the attempt has often been made to overthrow his credit by triumphantly refuting opinions which he never held, and to expound his system, not in the light of doctrines which he himself taught, and for which he was willing to stand sponsor, but according to what, in the opinion of his expositors, he ought to have taught, or would have if he had as clearly known his own mind as they professed to know it, or if he had foreseen the implications of his thought which they, his successors, had succeeded in explicating. In this way it has come about that some of the most authoritative

[1] A Paper read before the Philosophical Club, New York, 23rd October, 1900.

accounts of the Kantian philosophy in the English language are so infiltrated with the elements of those later systems, which Kant himself did not know and which in their first beginnings he repudiated, that his actual teachings in the minds of many have become obscured, and a kind of bastard Kantianism has come into vogue, reminding one of the spurious Aristotelianism that was current in the schools of the middle ages.

I mention these facts at the outset as a warning intended not so much for my readers as for myself. I, too, am about to undertake the hazardous task of criticism. It is well to remind oneself of the pitfalls that beset such an undertaking.

To criticise, one must understand. To understand, one must sympathise, nay, one ought, in the first instance, to forget criticism and be willing to take the humble attitude of a learner. The entire ethical system of Kant depends on the idea of freedom—not on freedom itself, but on the idea of freedom. What meaning does he attach to this idea? How does it originate? How does he seek to legitimate it? How does he endeavour to reconcile it with the idea of necessity? These questions we shall now take up.

The passages which it concerns us to study and to keep before us in their *ensemble*, as each in some degree supplements the others, are: the chapter on Freedom in the *Kritik of the Pure Reason*, the corresponding chapter in the *Kritik of the Practical Reason*, a chapter on this subject in the *Prolegomena*, and, in addition, the observations contained in Kant's *Philosophical Diary*, edited by Erdmann, and published in 1884: "Observations on Freedom," numbers 1511 to 1552 inclusive. I shall make the attempt to state the main points of Kant's argument in a series of propositions.

First, a distinction is to be drawn between the fact of experience, the inference from this fact, and the argument designed to furnish a metaphysical basis for this inference. The fact of experience is the occurrence in us of judgments implying absolute obligation. I ought to act in such and such a way, irrespective of my inclinations, and even contrary to them, without regard to the force of obstructive habits, heredity, education, environment, etc.; something it is absolutely right for me to do. A merely hypothetical judgment affirms that certain means ought to be adopted in case I desire the end. A categorical judgment affirms the existence of an end which I am not at liberty to choose or reject at my good pleasure, but am under obligation to choose. In every other case the word "ought" refers to the means. In the case of moral obligation the word

"ought" refers to the end itself as well as to the means. This fact of experience constitutes the starting-point of the Kantian ethics. If we dispute this fact, we part company from him *ab initio*. Let us, however, hold in abeyance any objections that may arise in our minds and pursue the argument further.

The starting-point, then, is the fact, real or assumed, of unconditional obligation. The inference from the fact is what Kant calls practical freedom. Because "thou oughtest," therefore "thou canst". It is of the utmost moment to remember that the freedom of the will, according to Kant, is not a matter of experience. Moral freedom is not for an instant to be confounded with psychological freedom, the faculty of deliberation or suspended judgment, or the consciousness of self-determination. Freedom, according to Kant, cannot be proved to occur in consciousness at all. It is not itself a fact of experience, but an inference from such a fact. The fact itself is the judgment "thou oughtest" The inference is "thou canst," "thou art free".

In the next place, practical freedom requires for its speculative basis transcendental freedom. If we are, on moral grounds and for purely moral purposes, to regard ourselves as free agents we must be able to justify the idea of freedom in its own right; we must be able to show, at least, that no self-contradiction is involved in assuming it, and especially that it may be held without infringing upon the law of universal causality, which is the foundation of science. Moral liberty may imply affirmations which transcend the domain of science. It must not, however, come into conflict with science in its own field. If we are to accept the doctrine of freedom at all it must be possible to define freedom and necessity in such a way that both may be held conjointly.

It will be of assistance to us, at this point, to recall the decisive contrast in method which marks off from one another Kant and his idealistic successors. The latter started from the metaphysical side in order to construe the world of experience. Kant always sets out from the empirical side and his metaphysics consists of a series of fundamental principles intended to establish the laws of experience on a secure foundation. The whole of the *K. P. R.* is orientated toward the exact sciences. The phrase "the possibility of experience," of constant recurrence throughout the *Kritik*, means nothing but the possibility of exact scientific knowledge. What seem to the superficial reader mere metaphysical entities, leading an independent existence in the thin upper air of speculation—I mean the chorus of *a prioris*, with the

unity of self-consciousness as their Apollo at their head, turn out on closer acquaintance to be the very Lares and Penates of the scientific household, the familiar genii to which every serious investigator pays homage on entering his study or his laboratory. It would doubtless tend to facilitate the understanding of Kant's thought and to strip it of the air of foreignness which is produced by a somewhat pedantic terminology, if the student would always bear in mind the concrete scientific problems, with reference to which the discussions in the *Kritik* are carried on, but which the author, as a rule, does not distinctly mention, in order that the purely abstract character of his argument may be preserved. Thus, for instance, the transcendental æsthetics deals with the T and S of mechanical physics, not with the psychological notions of time and space, nor with their genesis. The chapter on the Axioms of Intuition is concerned with the application of pure mathematics in its complete precision to the objects of experience. The Anticipation of Perception is concerned with the fundamental principle that underlies the conception and the measurement of force. In the discussion of Causality and of Reciprocity or Community it is Newton's laws of motion which the argument keeps in view.[1] In the chapter on the Postulates of Empirical Thinking we are invited to clarify our thought with respect to the scope and limitations of scientific hypotheses. Even when we pass beyond the borders of the Analytic and discuss the ideas of the reason, we have not escaped from the territory of the exact sciences. The idea of God, for instance, in the *K. P. R.* is justified on the ground of its *scientific usefulness*. It is intended, though capable of being charged later on with a richer meaning, to promote the process of induction so that it may confidently be pushed to its farthest possible limits. The ideas of the homogeneity, the specification and the affinity of nature are gathered together, as it were, in a kind of mental symbol, with the *ens realissimum*, or God, as their *substratum*. We are asked to look upon nature as if it were the work of a rational being, not because we have the right to affirm the existence of such a being, but that we may the better succeed in discovering such rational connexions in nature as actually subsist. We are asked to regard it as a coherent whole in order that we may make our interpretation of it as coherent as possible.

The T and S of mechanical physics, Newton's laws of motion, the scope of scientific hypotheses, the assumptions

[1] See Hermann Cohen's *Kants Theorie der Erfahrung*.

that underlie the process of induction, these and such as these, and the problems which they involve are the subjects with which the *K. P. R.* is concerned. If Kant had entitled his book "A Philosophical Inquiry into the Fundamental Principles of the Exact Sciences," such a title would have covered the positive side of the *Kritik*, and possibly might have served to prevent much subsequent misinterpretation.

Kant—let us hold fast to this one thought—intends by his entire system to account for the element of *certainty* in experience. He distinguishes between knowledge, loosely so called, and knowledge in the strict sense, between perceptive judgments and judgments of experience or scientific judgments. He asks, Whence the difference? Or, to put it in another way, it is the distinction between the expectation of future happenings, founded on previous association, and the prediction of future happenings, founded on scientific certainty, that constitutes the pivot on which the *Kritik of Pure Reason* hinges. Does scientific prediction merely differ in degree from that expectation which is encouraged by habitual sequence? Is the difference one merely of degree? Kant asserts that it is a difference in kind. There are *a prioris* in a certain part of our knowledge, and this part he calls experience. And what are these *a prioris?* They are the factors of certainty. The substitution of the term 'factors of certainty' for the term *a priori* might be a gain. The term *a priori* suggests independent existence which Kant, far from asserting, constantly and strenuously denies. It suggests a pretended insight into the aboriginal constitution of the mind, into the germinal principles out of which intelligence has developed. And this claim of pretended insight, I take it, was equally foreign to Kant's conception. At any rate, the validity of his theory of knowledge does not depend on the admittance of any such claim. The term *a priori* suggests chronological antecedence and, in this respect, it is particularly misleading. The Kantian *a priori* is discovered not in its origin, but in its operation. The *a priori* in the Kantian sense may be synchronous with its product, may be born at the very moment when it yields its first effect. If a new science were to arise, containing some new element of certainty heretofore unmanifested, we should be compelled to formulate a new variety of the so-called *a priori*, and we should be justified by the spirit, if not by the letter, of Kant's teachings in so doing. The doctrine of the *a priori*, often confused as it is with the doctrine of innate ideas and of intuition, is really as unlike these doctrines as it is possible to be. The thinker of the Kantian type does

not attempt to discover a mental content which is common to the Fiji Islander and to Lord Kelvin, does not attempt to acquaint us with an *a priori* which consoled the cave man in his moments of meditation. Nor does he speak of truths which are apprehended in a flash of intuition, apart from experience. The thinker who follows along the Kantian lines lies in wait, watching how the human mind behaves when it exercises its powers. He observes how the mind reveals itself in the exercise of its powers, and these moments of self-revelation he fixes on his philosophic camera. He watches to see what harvest of assured knowledge the soil of the human mind produces under the rarest and most favourable conditions, and from this crop he makes his inference as to the seed. But as to the origin of the seed itself, as to how it came to be planted in the human mind,—into such questions as these he forbears to inquire, and the whole question of genetic development he leaves to the psychologist to deal with it as he may see fit.

I have said that Kant traverses the field of experience and that wherever he finds an element of certainty he raises the question as to the factor which produces it. And this brings us back, after a somewhat lengthy but, I trust, not irrelevant digression, to the subject in hand. In the realm of ethics, too, he lights upon an element of certainty, namely, that which is implied in the Categorical Imperative, in the idea that there are lines of conduct which ought to be followed at all times and by all persons. There is, indeed, a capital difference between the certainties of science and those of ethics. The former are verified in experience while the latter are not capable of such verification. It cannot be proved, Kant tells us, that a single human being has ever obeyed the Categorical Imperative, that a single human being has ever pursued the line of conduct which yet he must admit to be universally binding. There is a gap between assent and performance of which it cannot be shown that it has been filled, even in a single instance. In ethics, therefore, we do not deal with any demonstrable lawfulness or certainty of conduct, but with the idea of such certainty, of such lawfulness, and it is the task of ethical philosophy, according to Kant, to account for this idea.

To repeat what was said above—"thou oughtest, therefore thou canst," is the starting-point. To say 'thou canst' is to assert practical freedom; but practical freedom presupposes transcendental freedom. To an examination of the latter we shall now pass on. Transcendental freedom is, putting the gist of Kant's thought into a single sentence,

the timeless origination of effects that appear in time. In Observation 1543 (Kant's *Reflexionen*) we read: "Transcendental freedom (of any substance whatsoever) is absolute spontaneity in action. Practical freedom is the faculty of acting on the sole impetus of reason." Observation 1541: "Freedom is the independence of causality from the conditions of space and time". The causality of a thing regarded as a thing *per se*. Observation 1533: "Freedom is the faculty of a cause to determine itself to action, untrammelled by sense conditions". Observation 1545: "We cannot demonstrate freedom *a posteriori*. . . . We cannot cognise the possibility of freedom *a priori*, for the possibility of an original ground of action, which is not determined by some other, is wholly inconceivable. Hence, we cannot theoretically prove freedom at all, but only demonstrate it as a necessary practical hypothesis." The gist of these quotations may be put as follows: Transcendental freedom is the pure self-activity of reason, or the application to one substance of a general notion which, in the case of transcendental freedom, embraces all substances. Freedom is inexplicable and inconceivable. We cannot prove its actuality nor even its possibility. For, what is meant by an act of spontaneous volition or by a substance which, without any determining influence from beyond its sphere, produces the motives upon which it acts we are incapable of understanding. The idea of freedom takes us outside the phenomenal world into the region of things *per se*, or of noumena. Freedom, be it distinctly noted, is vested in the noumena. What is called psychological freedom is a transparent piece of self-deception. Self-determinism, which has sometimes been presented as a substitute for freedom,—namely, the fact that, after our character has been formed by heredity, education, environment, in short, by the confluence of innumerable extraneous influences, we then act along the lines of this, our character—such self-determinism Kant dismisses with a single word of infinite contempt. "The freedom of a mechanical turn-spit" he calls it. No; genuine freedom, he demands, self-activity of the reason—a very different thing from self-determinism—the rational substance in us, acting on its own motion, causing to emerge of its own accord the commanding motives that ought to sway our will. But this freedom, he tells us, occurs behind the scenes. We have no consciousness of it, at least, not any that we can build on. There is an actor in us who never takes off his mask, who never appears on the stage, and of whom, nevertheless, we are to assume that he exists because of certain effects which he produces, from behind, or from

within; in short, from the region of the unseen. This actor is our noumenon. Freedom is vested in the noumenon; our freedom is in our noumenon.

But, in this connexion, it becomes indispensable to pause and to consider to what we should be committing ourselves if we were to go along with Kant in assuming noumena in general and the noumenon of man in particular, more especially as the degree of reality which belongs to freedom depends on the reality ascribed to the noumenon of which freedom is a function. Now does Kant say that things *per se* exist? Not at all. He says they must be assumed to exist. The distinction is sharp. At first blush, it looks as if, in contrast to phenomena, which convey merely the appearance of reality, the things *per se* were designed to satisfy our craving for the ultimately real. The world of phenomena is the world of seeming; that of noumena the world of truth. But, in a certain sense, the direct opposite is unquestionably Kant's meaning. The world of phenomena is for us—and, of course, only for us—the world of objective reality. By no other means, according to Kant, can we attain to the knowledge of reality except by subjecting the data of sensation to the synthetic processes of the understanding. Sense data, thus synthesised, he calls objects. They exist. The solar system exists. The fall of a stone is an actual occurrence. The things *per se* do not exist. They are only assumed to exist. According to Kant, the separate rings in the chain of experience and the interconnexion of link with link, are real. But the whole chain is not a reality. The notion that the chain can be carried back endlessly, or that it is suspended somewhere, from an aboriginal pier or support, does not correspond to reality. Such a thing as a universe does not exist, except only in idea.

If this be the case, if noumena do not exist, but are only assumed to exist, what profit is there in assuming them? They have such value as belongs to concepts of limit. Negatively, they serve to warn us that our interpretation of things is not the only possible one, not the final one. We, indeed, can know no other; but we can know that there may be, must be, others. With the sort of material to which we are restricted, namely, the data of sensation, with the sort of mental tools with which we must work, namely, the synthetic processes of the understanding, Kant tells us we may never hope to complete the chain of knowledge. Not only have we not succeeded thus far, but, in the nature of the case, the prospect of complete success is excluded. But in addition, the noumena have certain positive values.

They are "dukes of the marches," stationed on the frontier of the kingdom of science to defend it against the incursions of supernaturalism and to extend it without assignable limit, under the stimulus of the idea of totality which, though incapable of realisation, is indispensable as a provocative of effort. And, in addition, there are two noumena, the noumenon of God and the noumenon of man which, in the field of morality and religion, acquire the highest kind of positive, practical value, this value consisting in their being the assumed centres of self-activity, the assumed fountain-heads of that freedom which, in virtue of the Categorical Imperative, according to Kant, we are compelled to postulate. Does this ethical value make them any the more real? If we keep within the bounds of Kant's thought, I think we must answer in the negative. We must assume that the noumenon of man, for instance, the centre of his self-activity, exists. We are bound to act as if it existed, but we do not know that it exists, and we cannot say that it does exist, as we say that light exists; we cannot say that self-activity operates, as we say that the forces of nature operate.

So far off, so impalpable, so, in a certain sense, unreal is this rational noumenon, so little does it enter into competition with the things whereof we know. A high, subtle, abstract, inconceivable, though not therefore unthinkable, somewhat! We are bound to act as if it existed. This is the whole outcome. Whatever certainty belongs to it is in the nature of moral certainty. Whatever life-blood of reality it possesses it borrows from its uses. It is not the ultimate reality. It is an X that stands for the ultimately real. Yet, even to go as far as this, even to admit the noumenon into our scheme of thought at all, as an indispensable auxiliary of moral effort, we are obliged to show, unless our mental household is to be hopelessly divided against itself, that self-activity and mechanical causality can subsist together, that they do not clash, that the order of nature and the order of freedom may obtain in the self-same act.

Let us review, for a moment, the steps we have taken. Unconditional obligation, the one sure fact and the starting-point. Practical freedom the inference. Transcendental freedom, the presupposition of the latter. Freedom, wholly ruled out as a matter of experience, lodged in the noumenon. This noumenon, this, our transcendental substance, the timeless originator of effects in time, incapable of being proved to exist, but only assumed to do so. Yet the freedom which is thus assumed, inconceivable and inexplicable as it may be, must, at least, be shown to be not incompatible

with natural causality. To the task of showing this Kant addresses himself in the famous chapter of the *K. R. V.*, which, as has been said, should be taken in conjunction with his statements in the *Prolegomena*, in the *K. P. R.* and in the *Reflexions*. He is aware of the difficulties of his task and wrestles painfully both with his thought and with the expression of it. I myself do not believe that he has succeeded in solving his problem; but I have been chiefly concerned, thus far, in my interpretation, to make clear the auxiliary nature of his metaphysical concepts, and I trust I have shown that they are quite devoid of that transcendent or mystical meaning with which some believe them to be fraught. In commenting on the subject which we now take up, my principal concern, before I attempt to criticise at all, will still be the same, to arrive at Kant's exact meaning as far as possible, and to demonstrate that it is far less charged with positive metaphysical affirmation than a cursory reading might suggest.

Others have said: determinism or freedom. Kant says: determinism and freedom. The line of his argument is a straight and narrow way, as narrow as a razor's edge. It is easy to miss his drift, as the example of famous expounders sufficiently attests. And yet, we have here reached the critical point of Kant's ethics, and should we fail to obtain light here, we shall have to grope in darkness through all the remainder of our journey. The key-thoughts which express the terms on which the reconciliation between freedom and necessity is attempted to be effected are the following:—

(*a*) If the objects of nature were things *per se* there could only be a single law applicable to them. Since they are appearances there is room for a double law, the law of natural causality applying to the appearances, and the law of causality through freedom applying to the things to which these appearances correspond.

(*b*) Freedom is the timeless origination of effects in time. The cause is noumenal; the effect phenomenal. This relation is possible because causality is a dynamic relation, and the cause may therefore *differ in kind* from the effect.

(*c*) The law of freedom is compatible with the law of mechanical causality because freedom is a "cosmological idea," that is to say, because the notion underlying it is the same as that which underlies mechanical causality, only in the former case expanded, magnified, raised to the power of the infinite. The common notion is that of constancy and necessity. In the case of phenomena, that which happens constantly and necessarily—namely, the invariable occurrence

of certain consequents after certain antecedents—is conditioned upon similar dependable relations existing between a series of preceding antecedents and consequents. The mind, however, unable to pursue this chase to the finish, fashions for itself the idea of an unconditioned necessity and constancy, that is, of something which happens always and necessarily, just as it does happen, without respect to what precedes or follows. And this is the notion of freedom as Kant entertains it. The point of his argument on behalf of reconciliation is that the idea of constancy and universality in general does not contradict that of constancy and universality in a particular instance. Farther than this he does not attempt to go. He warns us repeatedly that he does not undertake to show how freedom and natural causation may be harmonised, that he does not attempt to show that freedom is actual nor yet to show how it is possible, but only that it is possible, namely, in the sense that the notion of freedom, as of unconditioned necessity and constancy, does not contradict the notion of conditioned necessity and constancy, but rather is an extension of the latter, the latter raised in idea to the power of the infinite. To put the thought in different language, the idea of freedom, while leaving the empirical nexus untouched, superadds the missing *logical link* between antecedent and consequent. The empirical nexus is a foot-bridge that spans a river. Causality, through freedom, is the steel cable that connects the banks and supports the frail structure that hangs suspended from it. The idea of freedom is that of the complete conditioning of what, in experience, is always incompletely conditioned, and this idea is reached, not by a perfect regressus from which we are precluded, but by our going outside of the time series, being warranted in so doing by the dissimilarity in kind that may subsist between a cause and its effect. (I ought here to say, by way of caution, that Kant does not attempt to efface the distinction between the order of nature and the order of freedom, when he urges upon our attention what is common to both, namely, the notion of constancy and necessity in happenings. Unconditioned self-activity and activity determined by antecedent conditions remain as widely apart as ever. The two have not really been reconciled. Still, if we admit the argument, they are shown to be not irreconcilable. The same act which we know to be determined, when we regard it as lying in the empirical series, we may regard as free, when we consider it as the effect of a deeper, under-working cause. And at this point, it may be well to observe the closeness of connexion between the *Kritik of Practical Reason* and the *Kritik of Pure Reason.*

The formula of the Categorical Imperative is but the application to conduct of the idea of necessity and universality, that is, of freedom regarded as a cosmological idea.)

Let us now proceed to consider how these key-thoughts are applied to the problem of the freedom of the human will. First, a distinction is drawn between the empirical character and the noumenal character. The former is wholly subject to the law of natural necessity; the latter is free. Every act of ours, Kant tells us, is to be referred back for explanation to antecedent conditions. All that part of any human act which is explicable is thus to be explained. If we could completely know the empirical character of a man at any given moment, we should be able to predict all his future actions with as much certainty as we predict an eclipse. Language could not be more explicit than this. The law of natural causality tolerates no exception, and our empirical self, the only self we know, lies wholly within the province of that law. Wherein, then, does freedom consist? In the fact that our empirical self is but the phenomenon of the noumenal self, in the fact that the whole series of our acts is but the manifestation in time of a timeless choice. The noumenon does not enter as an interloper between any antecedent and its consequent. It is the profounder reality of which the whole string of antecedents and consequents are the external apparition.

Further amplification and elucidation, however, are needed. What, we may ask, does Kant mean when he says that a man's empirical character is the phenomenon of his particular noumenon? Empirically, the influences that contribute to form us stretch back far beyond the limits of our individuality. Sixteen grandparents, if we go back only a few generations, and hosts of ancestors back of these, have helped to mould us. Our origins are so ramified as speedily to be lost to view in the general mass of humanity; and humanity itself, in its beginnings, extends backward into the animal world. What, then, does Kant mean when he says that my empirical character is the appearance of my noumenon? The word 'character,' it seems to me, is to be taken strictly. Only the character is the phenomenon of the noumenon. And what is the character? Briefly, the degree of intensity with which the reason in me resists all those influences upon me that are uncongenial with itself, the degree of effort which the reason puts forth in affirming itself. When Kant, therefore, declares that, if we knew a man's empirical character at any moment, we could predict all his future acts, he includes in the term 'character' this

aboriginal set of the will. But, if this be so, why does he assert that, nevertheless, every act of ours can be explained in terms of its antecedents, seeing that the set of our will, the degree of intensity with which the reason resists counter influences and affirms itself is the operation in us of freedom and cannot be explained in terms of antecedent conditions. The answer to this question is that the set of our will, the degree to which we are estranged from or conform to reason, is a wholly unknown quantity, is hidden even from ourselves. Yes, indeed, we should be able to predict a man's future acts if we knew his empirical character. But we never can know his empirical character, at least, not that element in it which stamps it as a character, which is the imprint on it of the rational cause. What we know about other people and even about ourselves is only the objective, outward side of morality, the act, but never, with any degree of certainty, the motive. Self-interest, concern for our reputation, the desire for internal peace may account even for those acts which seem the most virtuous; such as charity to the poor, self-sacrifice, truthfulness, etc. Briefly, the morality of an act does not lie within the range of experience. We may give ourselves and others the benefit of the doubt and assume that they or we have acted from a purely rational motive; but we can never be sure of the fact that they have or that we have. Still less can we be sure of the degree of merit to which we are entitled to lay claim. Our worth is proportional to the degree of effort which the rational nature in us puts forth in the attempt to affirm itself. But it is obvious that if the counter influences, as in the case of the offspring of a dipsomaniac, are great, even a sturdy effort of the rational nature may produce but meagre objective results; while, on the other hand, if the influences from without are propitious, as in the case of the gently born, even a feeble effort may produce outwardly fair results. The degree of merit, however, is proportioned, not to the result, but to the effort, and this, even in our own case, we cannot estimate.

Of the Imperative alone "thou oughtest" are we sure, and of the idea of freedom involved in it. Actual freedom is an inference, a postulate. But if the freely operating cause be thus inaccessible and if, at the same time, unlike the noumena of phenomena in general, it is represented as a cause which has intercourse with the phenomenal world, and which injects its influence into the latter, how are we to represent to ourselves this connexion between two orders of existence so entirely disparate? I think we shall best comprehend Kant's language if we assume that what he

says on this subject is to be understood symbolically. A symbol, in the sense in which Kant employs the term, is a noumenon represented for the nonce as if it were clothed with phenomenal attributes. We know that the garments do not fit. We do not assert that any such being as we have dressed up actually exists. But we require the help of such a figment because it stands for or symbolises an ultimate truth, which we need to keep before the mind, and of which we cannot in any other way lay hold. Thus, for instance, the conception of God, as Kant employs it, is symbolic. He does not say that God exists. On the contrary, he has taken the utmost pains to destroy the proofs of his existence. Nor is his re-introduction of the idea of God a glaring self-contradiction, as it is often represented to be. He does not say that God exists. He tells us that we are to think and to act as if such a being existed, for practical purposes. He has draped the noumenon in phenomenal attributes. And in the same way, I believe, in the chief passages that relate to the subject which we are now considering, he has invested the noumenon of freedom with phenomenal attributes, with garments that do not fit, with attributes that really contradict its nature. He asks us to pass over the contradiction, to look upon the thing as if it were what he describes it to be, to treat it as the symbol of what we cannot, in its own essence, grasp, in order that we may be able to keep before our minds the fact that there is such a noumenon. Thus, for instance, he represents a rational, timeless cause as acting. But how can we speak of action at all which does not occur in time? What sense can we connect with the words "timeless action"? Never mind, says Kant, we are dealing with a symbol. A noumenon is treated *ad hoc* as if it were a phenomenon. Again, a rational cause, one which is determined solely from within, nevertheless elects in a timeless choice to assert its rational nature imperfectly. The lapses of our empirical character are represented as due to a noumenal flaw. But how can there be such a flaw? Since reason, *ex hypothesi* is not determined by anything outside itself but solely by itself, how can it give effect to its nature otherwise than in a perfectly adequate manner? Once more, "Never mind". We are investing a noumenon with phenomenal attributes. We speak of it with a *proviso* "as if". It is only on the assumption of the symbolic significance of those statements of Kant which relate to the commerce of the noumenon of freedom with the phenomenon that his theory can be properly articulated, and the various parts of it so disposed as to avoid clashing with each other.

I have devoted so much of my time to exposition as to leave little room for criticism. But as, in that part of this paper which is devoted to the theory of freedom, my main object has been exposition, I shall not regret this circumstance and shall state my points of criticism very briefly. They are of two kinds: practical and metaphysical. The attempt to formulate at all or to represent, even in symbolic fashion, the relation of the supersensible to the sensible world is ever fraught with grave moral perils. There are two alternative positions between which those who undertake such attempts are sure to oscillate, two horns of a dilemma on either one or the other of which they are certain to be impaled. Either the phenomenal is noumenalised, or the noumenal is phenomenalised; either the relative, the human, is invested with an absolute character and thus acquires a degree of rigidity which deprives it of life, or the absolute is degraded to the level of the relative and thus loses its absolute character. A result of this nature has attended Kant's undertaking. He tells us that the empirical character is but the unfolding in time of a noumenal choice, taken outside the realm of time. If this be so, then it follows that the hope of moral regeneration is cut off and on the most obvious grounds of practical morality we must protest. To say that the empirical character is merely the apparition of the noumenal is tantamount to saying that we cannot really become different than we have been, that we can only, as circumstances favour or inhibit, bring to light that moral self in us which has been and is and will ever be the same. But this is to deny our dearest moral hope. From the standpoint of practical morality, we are bound, on the contrary, to say that we can always transcend our former selves, that we can really become different beings, that our choice is not beyond recall, that a new choice is open to us every day and every hour. The following alternative, it seems to me, so far as Kant is concerned, is not to be evaded. Either he must make the character a rigid thing and introduce noumenal inflexibility into the empirical will; or, if he were to admit the possibility of genuine moral change, he would be constrained to introduce change into the noumenon itself and thus abolish its noumenal character.

The other class of objections are metaphysical.

In the first place, let us state the objections that lie against the Kantian deduction of the possibility of freedom. Admitting that natural causality applies only to phenomena, it follows that another kind of causality, operating over and above or outside of the time series, is thinkable. Thus far we must, I

think, assent to Kant's argument. We are bound to remember that the temporal series of antecedents and consequents is a fragment incapable of being extended so as to touch a starting-point or to merge into a final end. Natural and libertarian causality are contradictory only on the assumption that a past eternity has actually elapsed, that the whole series of natural causes exists objectively, independently of our subjective ability to survey it, that it lies like some silent world which has never been visited, like the Pole which has not been reached, but of which we know, all the same, that it is objectively existent. If the whole series of antecedents be supposed to exist in this fashion, ready to appear to an intelligence capable of winging its flight so far, then, indeed, natural causality precludes any other kind of causality, then determinism swallows up liberty, and the problem of freedom cannot even be raised. But if we distinguish between the infinite expansion of possible experience and the possibility of an infinite experience, as Kant does, then the law of natural causality is merely a provisional device for the arrangement of phenomena with a view to our subjective mastery of them, a device which does not yield final truth and does not exclude recourse to other modes of interpretation, if, for valid reasons, we find ourselves called upon to resort to them.

To this extent, then, I should agree with Kant. But he takes a further step, and here my agreement with him ceases. We may think of the noumenon, he says, as that unknown X which lies behind the screen of phenomena, a mere ideal point to which attaches our logical demand for totality. We may also think of it, he goes on to say, as a cause which produces effects in the time series, and which has relations to and commerce with a certain particular class of phenomena. The noumenon in the first sense is the noumenon of the world in general. The noumenon in the second sense is our human noumenon, that which corresponds to and serves as a point of attachment for the idea of a unified or moral personality. It is this notion of intercourse between two wholly disparate orders of existence that creates all the difficulties, the insuperable difficulties, with which his doctrine of freedom is embarrassed.

The metaphysical objections are these. There are two factors to the combined use of which the human mind is unalterably committed by its very constitution. The one a manifold of some kind, as a datum; the other the synthetic process in some one of its various modes. Within the field of experience Kant realises that these two factors are inseparable, that unity is meaningless unless it be the unity of

a manifold of some sort. Outside of the field of experience he seeks to cut the cord which connects these Siamese twins, to break the contract by which these two mutually dependent correlatives, these everlasting partners are associated, and to establish a synthesis *in vacuo*, to treat the rational factor which contributes the element of unity to experience as if it were capable not only of existing by itself, but of becoming the cause of effects. This attempt to set off by itself one of a brace of correlatives, to cut with one of a pair of shears, seems to me the capital metaphysical error.

A second error seems to lie in the assumption, which is fundamental to Kant's argument, that effect and cause need not be the same in kind, causality merely implying dependence, and not involving an intrinsic connexion. Now it is true that the effect is never wholly identical with the cause but, in some respects, differs from it, else it would be impossible, even in thought, to hold the two apart. And yet, not only is there, despite the difference, a fundamental identity, a common substance necessarily presumed to underlie all changes, but the changes themselves must be reducible to a common denominator, as when the physicist attempts to explain all the manifestations of energy in Nature as modes of motion. Nor can we establish a firm connexion between effects and causes until we have satisfied both requirements; until we have found or assumed an unchanging somewhat that underlies the change, and have discovered a common process of which all the changes may be explained as variations. Now, it is evident that, while Kant may be admitted to have proved the possible identity of substance, as between noumenon and phenomenon, he has not shown the common process of which the phenomenal and noumenal happenings are the modes, and, in default of such a demonstration, it is not legitimate to refer phenomenal effects to noumenal causes. Such differences as may properly be allowed to exist between effect and cause are differences within the same order, not differences between one order and a wholly different order. Moreover, the statement of Kant that causality implies merely dependence and not intrinsic connexion, shows that he transfers what is only true of phenomena to noumena. In the case of the former, precisely because they are only phenomena, we must rest content with a merely extrinsic nexus. But a noumenal cause is one the very assumption of which implies an attempt to satisfy our logical demand for a complete account of the relation between cause and effect, and a complete account must show the intrinsic bond between the two.

At this point, and before passing to other parts of my subject, I may perhaps attempt to indicate succinctly my own attitude toward the question of freedom, as I have been requested to do. The problem of moral spontaneity or free will seems to me to be only a special case of the problem of mental spontaneity. Is it true that the mind can act spontaneously? Is it true that it can react in an original way on the data of sensation presented to it? When the key of sensation is thrust into our mental lock is there a bolt shot that holds fast experience and prevents the treasures we gather from being scattered to the winds? Does there occur an act of unification? If so, then this act of unification is an act of mental spontaneity strictly speaking, itself not explicable in terms of that manifold, of the coherence of which it is the prior condition. Thus, in a certain sense, we are justified, instead of narrowing the territory of freedom, rather to extend it, instead of wondering and doubting whether we can vindicate the existence of freedom in one aspect of our mental life, rather to wonder at the suggestion that there should *not* be freedom in the mental life as seen from one particular point of view, since freedom, spontaneity, is the characteristic of our mental life from every point of view. I do not say, of course, that we can explain this fundamental act of unity in any of its manifestations. I only claim that it is not more inexplicable in that aspect of the mental life which we call volition than in any other. The fundamental question is: how the one and the many can embrace, how it comes to pass that all that is highest in us, our science, our art, our ethics, should be the offspring of this marriage of two such alien opposites as the one and the manifold. And to this question there is no answer. We are so constituted. As a matter of fact, truth, beauty, and goodness are the children of this pair who are for ever fleeing and for ever seeking each other, for ever clamoring to be divorced on the ground of radical incompatibility, and for ever unable to endure the absence of each other's society. How there can be mental spontaneity is the insoluble problem, soluble only in a practical way, namely, by the assurance that there is. Every time a mathematician conceives the notion of uniform space, or a physicist the notion of uniform time, he performs an act of mental freedom. Every time we mark off a set of relatively constant processes and regard them collectively, *i.e.* from the point of view of unity, as an object or a thing, we are performing an act of mental freedom. The chain of causes and effects, of antecedents and consequents, a chain which hangs loose in air at both ends,

nevertheless, so far as link is interlocked with link, is a product of our mental freedom. Natural causation itself, which seems to fetter us as if we were slaves, is a fetter which we ourselves have forged in the workshop of mental freedom. The world, so far as we can speak of a world—and we can only speak of it by a species of poetic licence; Nature, or this fragment of Nature of which we have knowledge, which we have made in our own mental image, or, at least, stamped with our mental image, which, in this sense, we have not merely reproduced but created, Nature, I say, with all the causality that obtains in it, is the evidence and the witness of our mental freedom.

And yet, of course, there is a distinction between moral and mental freedom. Though the fetter be forged by our own hands, it binds us none the less securely. And the problem, as it seems to me, is really this: not how freedom is possible, for the answer to that question simply is, it is possible inasmuch as it is actual, but how is one kind of freedom consistent with another kind, the kind of spontaneity which we mean when we think of volition, with that kind of freedom which operates in constructive science? And what is the distinction between these two? Briefly, to my mind, the distinction is this. The act of unification, which is involved in science, is a synthesis of causes. The act of unification, involved in ethics, is a synthesis of ends. The face of science is turned backward. It seeks to explain the present in terms of the past. The face of ethics is turned forward. It seeks to determine the present with reference to results to be attained in the future. Or, to go a step farther, the ultimate distinction between science and ethics is it not this? The manifold with which science deals, which it is its business to unify, is given in sensation, in experience. The manifold with which ethics deals is not given, not supplied at all from without, but is a purely ideal manifold. Granted that, being so made as we are, the union of the one and the many is the burden of every song we sing, is the theme of that intellectual music in obedience to the strains of which our world, the little world we inhabit, is built up,—granted that this is so, we find that in the field of science our liberty is restricted by the circumstance that the manifold, which it is of the essence of our intelligence to seek to unify, is forced upon us, as an unalterable datum, to which we must accommodate ourselves in order to master it, and which yet we can never wholly master because of the irrational residuum which remains in it, despite our utmost efforts to rationalise it, because it is, in the ultimate analysis, intractable and

uncongenial to our intelligences. And therefore, aiming at a highest manifestation of our constructive liberty, seeking an utterly free field for the achievement of rational synthesis, we figure to ourselves the idea of a manifold which shall be wholly tractable, of such *differentiæ* in which shall wholly be expressed the underlying unity, of such unity as shall wholly embrace and absorb in itself the opposing plurality. And it is by this means, by freeing the notion of the manifold from the restricting conditions to which as a datum *ab extra* it is subjected, by transcending the bounds of experience and taking the notion of the manifold in an unlimited sense, as 'manifold in general,' by conceiving the two antipodal poles between which our intellectual life plays, as ideally harmonised, it is by such means that we arrive at the organic ideal, or the ethical ideal. For the two are identical. The organic ideal is that of an infinite system of correlated parts, each of which is necessary to express the meaning of the whole, and in each of which the whole is present as an abiding and controlling force. The ethical ideal is produced by applying this purely spiritual conception of an infinite organism to human society. To act as if my fellow-beings and as if I myself were members of such an infinite system in which the manifold and the one are wholly reconciled is to act morally. So act, not as if the rule of thy action were to become a universal law for all rational beings (for I shall presently endeavour to show that this is impossible) but so act that through thine action the ideal of an infinite spiritual organism may become more and more potent and real, in thine own life and in that of all thy fellow-beings.

And how is this ethical kind of freedom compatible with the other kind which expresses itself in forging the chain of natural causality? The two are compatible only, because they refer to totally different sides of the same act. Natural causality deals with the manifold that is given. It seeks to piece together the parts of it as they appear in the time series, to relate each successor to its predecessor. Moral causality deals with a manifold that is not given. It signifies the force in us of an idea, namely, of the idea of a final reconciliation of Unity and Plurality, whereof experience presents no example, and which, nevertheless, in consequence of the inborn desire to harmonise the two conflicting tendencies of our nature, we are compelled to propose to ourselves as our highest end. Moral causality leaves natural causality intact in its own sphere and uses it. Natural causality may be compared to the shuttle that runs backward and forward weaving, according to unalterable mechanical laws,

the web and woof of existence. Moral causality, our 'best card' in more senses than one, may be compared to the pattern in accord with which the web is to be woven. (Technically speaking, the fatal error that vitiates Kant's transcendental dialectic is to be found in the proposition that the idea of the unconditioned arises solely *a tergo*. Any existing thing whatsoever being conditioned, he says, necessarily presupposes the idea of a preceding sum of conditions adequate to account for its existence, or the idea of an unconditioned. But we are not equally constrained, he maintains, to look beyond the present and to think of the multitudinous consequences of that which now is as converging toward a future unconditioned. So far as we are mere spectators of the show, inquisitive of causes, this is true. But, inasmuch as we are also actors, and since each end of action that we propose to ourselves has only relative significance, we are forced, would we satisfy the demand for unity in the choice of ends, to push forward in anticipation toward some ultimate end to which all our minor ends may be related as means. The unconditioned of the future, therefore, necessarily arises for us in the field of conduct or of ethics, and the idea of the complete merging into one another of the manifold and the one appears to me, if not the absolute end, the highest and clearest representative symbol of it to which we are capable of attaining.)

Having thus, in bare outline, indicated my acceptance of the doctrine of freedom on other than Kantian grounds and with a meaning assigned to it different from his, let me now pass on to other points of criticism. The connexion between the *Kritik of Pure Reason* and that of the *Practical Reason* is close and must ever be borne in mind. Kant is the philosophical exponent and champion of the universal reign of law. Throughout the *Kritik* it is his aim to fortify our confidence in the validity of natural laws. To this end, he demonstrates the existence in the mind itself of the types of which these laws are the replicas. He discovers in the mind itself the philosopher's stone which transmutes associations into laws. By what right do we speak of physical laws at all? he asks. What is the law-creating element which gives to these so-called laws their lawful character? These are the questions which in the *Kritik* he puts. And the various forms of the synthetic process furnish the answers to them. Kant is the philosopher of physical law. His metaphysical concepts are intended to buttress and support the throne of physical law. And as to his fundamental ethical principle, this again turns out to be nothing more than the disem-

bodied ghost of physical law, just the sheer idea of absolute lawfulness applied to conduct, just the bare notion of necessity and universality in action, without regard to the content of the act. There is no sunlight in Kant's moral world. All moral acts in themselves considered are as dead and cold as the satellite that revolves around our earth, and the light of universality and necessity, with which they shine, is reflected and comes to them from an unseen luminary lying beyond our horizon. Now, in replying to this view, let it be remembered that the notion of necessity and universality, in the *Kritik of Pure Reason*, is always presented as the concomitant of the synthetic processes. Something occurs in consciousness, namely, the synthetic process in one of its various forms, and, in virtue of the constitution of our minds, we realise that this process, this act of unification, is necessary and universally valid for ourselves and for all rational beings like ourselves. Something happens which we recognise as necessary. But in the *Kritik of the Practical Reason* necessity and universality, these concomitants of something else, are represented as if an independent authority belonged to them, as if they were cogent in their own right. This is not and cannot be the case. And here we light upon the flaw in Kant's ethical principle. Here we see why his ethics is so unconvincing. It is, I repeat, because that which is cogent only as the concomitant of something else is represented by him as if it were cogent on its own account. I do not admit, as is often asserted, that it is the formal character of Kant's ethical principle that makes it unsatisfying. The principle of causality, too, is a purely formal one, and yet it is fruitful and convincing enough. Rather is it the failure of Kant to point out, as underlying ethics, some specific, synthetic process capable of being apprehended by us as necessary and universal that makes his ethics sterile. It is a ghost, the ghost of natural law, which we are asked to accept as the oracle of conduct. Kant's Categorical Imperative comes to us with the impact of a blow on the head. "Thou shalt." Why? We are forbidden even to ask that question. One is sometimes tempted to think that the spirit of the Prussian Army, as it was handled in the days of Frederick the Great, Kant's contemporary, has entered, in the shape of the Categorical Imperative, into the domain of philosophy, that the Imperative of the metaphysician is a kind of echo of the commands of the corporal. But, if we take heart, nevertheless, and reflect upon the way we are thus bidden to act, if we imagine a state of human society in which every man would be a perfect moral agent, accord-

ing to Kant's formula, *i.e.*, a state of society in which every act of every human being would have the character of necessity and universality, and then ask ourselves whether such a state of society would really represent to us the perfect moral order; whether we should be able to dwell upon it with satisfaction, I think the answer would be in the negative. Suppose the goal, as Kant conceives of it, to have been reached; but what has been gained? Suppose that every word spoken and every deed done is determined by this abstract idea of universality and necessity. Suppose that men act with the precision of conscious automata. But in what respect would the moral order thus painfully established—if ever it could be—be superior to the physical order? The inhalation and exhalation of breath, the discharge of the basest animal functions, the fall of a stone, are marked by the same universality and necessity. Consciousness, indeed, would be superadded. The machine would be aware of the turning of its wheels. But this, considered as the net outcome of "the travailing and the groaning," is hardly an inspiring outlook. And moreover, even this result, the perfect automatism plus consciousness, could only be attained in the last days, at the end of evolution, in the far distant future. While, in the long interval, the consciousness which is superadded would be distinctly a disturbing factor inhibiting instincts which might have been surer guides, confusing and often baffling our decisions. Kant's ethics is a species of physics. His moral law is natural law dipped in the bath of consciousness. The fundamental flaw is that he represents the joint notion of necessity and of universality, which is cogent only as the accompaniment of the synthetic process, as if cogent on its own account.

The next point of criticism is that Kant's conception of morality is projected so far into the empyrean that there seems to be no bridge by which it can be connected with the actual sublunary world. According to Kant, a moral act is one which is performed exclusively out of respect for the idea of necessity and universality. Now, as he admits, it cannot be proved that such an act has ever been performed, and hence it follows that the existence anywhere of moral beings becomes doubtful. For what is a moral being? Shall we say a being *capable* of moral acts, capable only, without our having adequate reason to think that this capacity has ever expressed itself? Kant doubtless would say that a moral being is one who acknowledges the obligation to act morally, whether he does so or not, one who recognises in himself the sort of constraint which is due to the working,

as he would explain, of the idea of universality and necessity. But have we any ground for supposing that the preponderant majority of men are even faintly moved by this idea of universality and necessity, that they stand inwardly in awe and reverence before it, or that they feel the obligation of purging the springs of their conduct of every other motive except that of respect for necessity and universality? And if we have no ground for supposing this, then, also, have we no ground for regarding the preponderant majority of mankind as moral beings. We cannot even be sure that we ourselves, who walk on the upper levels of abstract thinking, are moral beings! And hence the moral law falls to the ground because there is no one of whom we can be sure that he applies it, and no one to whom with certainty it can be applied. Plainly, we are bound to act morally only toward other moral beings. If, nevertheless, it is urged once more that though freedom be absent the idea of freedom is present in every human being, even in the most humble and the most debased, I must again reply that the idea of freedom, as Kant interprets it, is surely not present in the minds of the ignorant or of the vicious. And, if we are to continue to regard every one who wears the human form as a moral being, and as one toward whom we are bound to behave morally, it must be on other grounds than those with which Kant supplies us.

The next objection is that the practical moral commands are incapable of being derived from the Kantian formula. It is a matter of surprise that this difficulty has not more clearly forced itself on the attention of the many thinkers who have trodden in Kant's footsteps. The duties which all recognise as moral cannot be derived from the bare idea of lawfulness. There is a fallacy involved in Kant's reasoning, there is a false assumption underlying it. To show what this is, let us take up his own examples of the moral commands or duties and observe the method by which he endeavours to deduce them from his formula. All that is requisite, he tells us, in order to decide in a given case whether a contemplated act is moral or not, is in thought to universalise it, that is, to suppose that all men should act in the same way. If, on this hypothesis, it is still consistent to act in this manner, then the act is moral. Self-consistency, on the basis of universality, is the test. For instance, in the case of veracity. A man hesitates whether it is morally right or wrong to tell a lie. Let him assume that all men should make it their rule in their communications with their fellows to speak, not the truth, but the opposite of it. Under such circumstances, would not the entire advantage of lying dis-

appear? Would it be consistent for a man, that is, consistent with the object which he hopes to gain, to prevaricate? A man lies, says Kant, on the assumption that others, that the world at large will stick to the truth. If every one else should lie, what profit would there be for him in doing so? The same holds good, he tells us, with regard to theft. A man may fail to respect the property of others so long as he expects that they will be good-natured enough to respect his own. If stealing were to become general what would it profit any one to steal? The same, again, applies to the duty of charity. A man may refuse to aid a fellow-being in distress, but he cannot desire that it shall become the accepted rule to leave the sick, the starving, the indigent to their fate. He can easily enough realise that a time may come when he will be dependent on the good offices of others, and that the rule which he had sanctioned in the day of his strength would seem wicked enough to him in the day of his weakness. It is hardly necessary to observe that it is not the gospel of enlightened self-interest that Kant teaches. He uses self-interest not as a motive but as a criterion. That which would be to our interest, if one and the same rule of action were adopted by all, whether actually it be adopted by them or not,—that is moral. But what an absurdly short cut is this toward solving the most intricate and complex of all practical questions,—the question, what is right? what is obligatory? what is my duty? Contrasted with the sublime flight which he takes into the region of the noumenal in order to obtain his first principle, this device to which he resorts for obtaining the laws of the noumenal as they reflect themselves in the world of phenomena, I must say, seems to me a veritable anti-climax. We can explain it perhaps by calling to mind that Kant devoted the major part of his life to the investigation of physical laws and of the fundamental principles that underlie them, and that he gave to ethics, not intentionally but actually, the crumbs that fell from the table of physics, the remnant of the strength of his declining years. But let us see wherein consists the false assumption implied in his method.

To take up first the case of theft. If stealing were to become general, Kant says, it would be absurd to steal. The one who despoils another does so in the hope of keeping as his property what he seizes. If property rights were not respected at all, the thief might as well dip his hand into the sea, with a view of grasping and keeping a part of it, as into his neighbour's pocket. The fallacy underlying this reasoning is the assumption that, if all men were minded to

take away the possessions of others, they would all be equally able to do so, the assumption that all men are equal, if not completely, yet to all practical intents and purposes. And this assumption he shares with the leading thinkers of the latter part of the eighteenth century. It was the same undemonstrable hypothesis that underlay the doctrines of the *Laissez-faire* School in economics; the same hypothesis, blindly accepted, that inspired the political reasonings of Rousseau, that expressed itself in the French declaration of the rights of man, and in the American Declaration of Independence, the assumption, namely, that all men are born equal. Strange as this view appears to us, we can very well understand how it arose as a reaction against the artificial inequalities which the feudal system had introduced in European society. It was natural for those who rebelled against those artificial inequalities to go to the opposite extreme of supposing that all inequalities between man and man are artificial in their origin, and that if the prevalent hierarchical system of caste could be swept away and men be revealed in their true nature, as they come from the hands of the Creator, it would be found that no inequalities existed between them, at least, none that might not be regarded as negligible. It is this doctrinaire assumption of eighteenth century speculation that we find involved in Kant's attempted deduction of the practical moral commands from the idea of abstract lawfulness. If all men were really equal, then their intent to rob each other of their possessions would mean their ability to do so. But, supposing merely the intent without the ability, then the general acceptance of the rule of stealing would not make it inconsistent for the strong and unscrupulous to defy the weak, and to rest securely in their unhallowed gains, in the midst of universal lawlessness.

The derivation of the rule of charity is open to precisely the same criticism. Kant, in this connexion, goes into some details. The duty of assisting the needy is not based on the egotistic expectation of a possible *quid pro quo*. It is not a rule of *do ut des*. We are not advised to throw our bread upon the waters in the hope that it may return to us after many days. "For a man, conceivably," says Kant, "may be so misanthropic and sour in temper as to be quite willing to enter into a contract that no one shall ever help him if he can but have the satisfaction of withholding assistance from those who importune him for it." "But," he continues, "even such a misanthropist, pleased as he might be for his own part to escape from the claims of benevolence, could not as an impartial observer contemplate with approbation a state

of society in which the rule were general, that no one shall act benevolently toward another." It would be against reason to approve of such a rule. The argument of Kant derives its force from the supposition that all men are equally dependent on one another, but it quite misses fire if, as is actually the case, this dependence obtains in highly unequal degrees. It would not be inconsistent, *e.g.*, for the miser who has purchased a large annuity, or has invested in safe securities, to refuse to give alms, trusting to the extreme improbability that he himself shall ever be in want.

The next example is that of truthfulness and falsehood. And here, again, I can see no reason why the rule of prevarication should be self-defeating, in case falsehood were to become general. Let us consider for a moment how such a plan would work. In the first place, there would be one element of certainty upon which we could always rely. Everything that a man said to us would be sure not to be true. There is a sphere in which this state of things is said to a considerable extent to have prevailed, until recent times, —the sphere of diplomacy. Was it, then, inconsistent for a diplomatist to follow Talleyrand's maxim that language is given us for the purpose of concealing our thoughts, because he knew that his fellow-diplomatists would treat him in like fashion? By no means, for the obvious reason that not all men are equally skilled in concealing their thoughts. And even if this were not so, the difference in psychological penetration and in ability to interpret the signs, apart from language, by which facts may be ascertained would still make it possible for the crafty liar to attain his end at the expense of his more bungling competitor. I do not, of course, imply that the spectacle afforded by human society, if lying, theft, etc., were to become the general practice, would be a pleasant one to contemplate. Nor do I gainsay that even the partial acceptance of the moral rules greatly enhances the commodity of human existence. What I deny is that it would not be consistent for the stronger and the more crafty to pursue their selfish ends without scruple if all others tried to do the same.

Finally, a word in this connexion in regard to the grounds on which Kant bases the prohibition of suicide. Self-love, or the desire for happiness, he says, is a means to an end, namely, the preservation and enhancement of life. It would be inconsistent, he thinks, if the same principle which is designed for the enhancement of life should lead to the destruction of it. This argument is so far-fetched and so unreal that one is at first at a loss to decide in what sense

Kant wishes it to be understood. Does he mean that Nature has implanted in man self-love, or the desire for pleasure, for the ulterior purpose of preserving and enhancing life, pleasure being the bait, and life the end, and that the act of suicide would therefore exhibit Nature to the extent that she is manifested in man, as at variance with herself, the desire for pleasure producing the very opposite effect of that which it was intended to subserve? If this be Kant's meaning, then we must say that the inconsistency, if any such there be, is Nature's and not man's; that, like a bungling workman, she has failed properly to adjust her means to her ends; that, as a matter of fact, the bait is not seductive enough to produce the desired result. And why should man be held responsible for Nature's failure? But if Kant means that it is inconsistent for man, from motives of self-love, to end his life, since self-love is the force which prompts him to support life, then the answer is that this may be true of self-love in the instinctive stage, but that it is not true when self-love has reached the stage of reflexion. The latter (reflective self-love) does not seek pleasure in order that there may be life, but desires life in order that there may be the experience of pleasure. Life is the means, and pleasure the end, and not conversely. And, when the means cease to be adequate to the end, when life, instead of yielding a harvest of joy, produces only an evil crop of pain, it is not inconsistent, but highly consistent, on grounds of mere self-love to terminate life.

Let us now briefly summarise the outcome of the preceding discussion. Kant's position is this. Would you know what is a moral act? Take any action whatsoever. Ideally universalise it. That is to say, imagine that all men acted in such a manner. Then if, under this hypothesis, the act is self-consistent, *i.e.*, if it does not defeat its own purpose, it is a moral act. The reason why this deduction breaks down is because it is based on the error that the same rule of action, adopted by all men, would lead in each case to the same result. In consequence of the innumerable gradations of strength and intelligence that subsist among men, this is not the case. And hence the test of self-consistency fails.

There are two functions which remain to be performed by the critic if he would grasp the root from which the Kantian ethics springs, and comprehend the fruit it bears. One of these is an examination of the Kantian teleology, of the meaning he attaches to the notion of an 'end,' and of the illegitimate use, as I think, which he makes of this notion. This inquiry is of the utmost importance because Kant, while vigorously

excluding the pursuit of our own personal happiness as a moral end, enjoins it upon us as a moral duty to promote the happiness of others. It is evident that he is compelled to take this step if his moral system is to be relieved of its aspect of frowning austerity, and is to acquire warmth of colour and richness of content. We must, according to him, repress the desire for happiness in ourselves. We must take our cue from the voice that echoes through empty infinities. Not even the Decalogue, as a set of specific commands, but, as it were, the tone of thunder in which it was promulgated is to be the incentive of our personal morality, and yet we must be permitted to take an interest in the happiness of others, if our philanthropic impulses are not to be wholly thwarted. A merely negative morality, one which respects and forbears to infringe upon the precincts of the personality of others, is not enough. We must be enabled to positively further their development, and to assist them in the attainment of their ends. Philanthropy demands as much. And Kant was a thorough-going philanthropist. Strangely enough, his extreme rationalism seems to have been but the obverse side of a profound susceptibility to feeling, so profound, indeed, that perhaps he felt all the more the need of curbing it, a susceptibility which helps to explain the sympathy he felt for a sentimentalist like Rousseau, despite the metaphysical differences that separated them. Kant felt the necessity of introducing the happiness of others as an aim in order to people the moral edifice which otherwise might have remained bare and almost untenanted. But was he justified in so doing? Was it allowable for him, on the basis of his system, to do so? For my own part, I submit that it was not, and for the following reasons. There are, as Kant maintains in the *Kritik of Pure Reason* and elsewhere, strictly speaking, no such things as natural ends. The notion of *telos* or end is applied to natural objects only *per viam analogiæ*. The *telos* is a provisional concept intended to cover the gap in knowledge due to our ignorance of causes. It is an index finger pointing to the existence of unknown causes, a prod intended to stimulate our search for such causes. A true *telos* does not exist in nature. We are only advised, or, if you will, enjoined, so to regard nature as if it were the product of a purposeful intelligence, as if it represented a concatenation of ends, in order that we may the better succeed in unravelling the chain of causes. A *telos*, strictly speaking, exists only in the moral realm. There is only a single example of it of which we have any knowledge—the act which expresses absolute univer-

sality and necessity. Now, so far as our fellow-men are moral beings they must work out their salvation without our assistance. A moral act is an act of pure spontaneity which no one can suggest to or elicit in another. A man's morality is wholly his own creation. We cannot enter into another's soul. We cannot either infect or purify his motives. The degree of effort which he makes to lift the rational motive into consciousness and keep it there constitutes his moral desert. And that effort, in the nature of the case, must be his own. On the other hand, when we regard man as part and parcel of the order of nature, we find that the notion of end applied to him from this point of view is altogether illusory. Our desires, our volitions, are to be regarded as the effects of causes, quite as much as the melting of wax under the effect of heat. The fact that, in ordinary parlance, we use the term 'end' whenever the representation of the outcome of an act precedes the act does not really justify the use of that term. The process of volition is not really teleological if the representation that precedes the act is itself the inevitable consequence of a string of previous representations. From the standpoint of the Kantian *Kritik*, therefore, it seems to me forbidden to speak of the natural ends of man. As a natural being, he has no ends. The notion of end applies to natural objects only by way of analogy. It is intended to be used as a kind of wishing-rod to help us in locating the spot where we must dig for the gold of causes. It is only a device designed to facilitate investigation. There are no ends in nature. We merely conduct our investigations "as if" there were ends. Now my criticism of Kant is that the proviso "as if," which he couples with the notion of end in the *Kritik of the Pure Reason*, is omitted by him when he speaks of man as a natural object in the *Kritik of the Practical Reason*. And thus, without justification, abruptly, he confronts us with the notion of the natural ends of our fellow-beings as the basis for a scheme of positive altruistic duties.

I must content myself with barely mentioning, in passing, that the illicit notion of end, as applied to man in his natural character, is also the unstable foundation whereon rests Kant's moral theology. A God is needed in order to harmonise the moral end and the so-called natural ends, to distribute happiness in exact proportions to moral desert. But if the basis of natural ends goes to pieces, the superstructure of moral belief, which has been erected upon it, likewise crumbles, and new foundations will have to be supplied if it, or anything like it, is to be maintained.

The nobility, the force and the fire of the Kantian ethics

is contained in the proposition that no human being may be treated merely as the tool of another, merely as a means to another's end, but shall ever be regarded as an end in himself. This statement, to my mind, is the Alpha if not, as orthodox Kantians have claimed, also the Omega of morality. Unfortunately, I am compelled to think that in putting forth this statement Kant's ethical perception far outran his ethical theory, that the theoretic underpinning which he offers does not really support this great practical pronouncement. We hear much nowadays of the necessity of a return to Kant. And I, too, believe that a return to Kant is necessary, at least for those who maintain that there is an absolute element in morality, despite the admitted relativity and changeableness of the specific moral commands. Yes, a return to Kant, but in the sense of taking up anew the problem which he attempted, but failed to solve, in the sense of trying by a new path to reach the goal which he had in view, and which, it has become evident, cannot be reached by the path which he pursued. He has not justified the conception of an end in itself, as applied to man. He could not do so because he missed the organic idea from which alone the conception of end or purpose can be derived.[1]

[1] We hear the crash of a tree as it falls in the primeval forest. We see the snow disengage itself from the brink of a precipice and tumble in powdery cascades into the abyss below. The notion of purpose does not arise in connexion with such occurrences. We say 'this thing has happened'; that is all. If we wish to go further, we ask 'Why has this thing happened?' What are the causes that have produced this effect? We see an erratic boulder in the midst of a green field. We do not ask, 'What end does it serve by being here?' but 'What are the forces that have brought it hither?' Its being there is the effect of a cause or causes. An effect is that which happens because something else has previously happened. Shall we now define, per contrast, that a means to an end is something which happens in order that something else may happen thereafter? Kant takes this view of the relation of means to ends, and hence infers that the notion of an end is essentially an anthropomorphic conception founded on the analogy of the purposeful action of human beings. And this view is shared by the majority of those who have written on the subject. Watch-making and house-building are the typical examples of the adjustment of means to ends. The objects of nature, to which the teleological view applies, says Kant, are to be regarded as if they were the products of an intelligence like that of man, an intelligence in which the idea of the resulting whole, present in a mind operating from the outside, precedes and controls the arrangement and the specification of the parts. But a more thorough-going inquiry will make it manifest that this explanation is, in reality, a case of putting the cart before the horse, that, instead of the organic idea being an anthropomorphic analogy based on the purposeful action of man, the reverse is true, namely, that the purposeful action of man is dependent on, springs from and derives its meaning from the fact that

And, lastly, the ethical system of Kant is individualistic because intellectualistic and rationalistic. What he calls the rational nature is the element of unity separated from its correlative, and man, so far as he is a rational being, is considered as an embodiment of this unity, a unit or atom, while the rational commonwealth is an aggregate of such atoms. Individualism was the keynote of eighteenth century speculation, and the individualistic tendency of the age found its most authoritative expression in the Kantian philosophy. If additional proof, after what has been said, were required, it would only be necessary to cast a glance at the *Tugend Lehre*, or "The Doctrine of Virtue," in which Kant outlines the scheme of practical morality which springs from his theory. In this practical exposition of the chief duties of life, we find that the self-regarding duties receive minute attention, that the general, altruistic duties are also carefully

he is an organic being, or at least that he is controlled in his conduct by the organic idea. The organic idea takes precedence. Our separate purposes are secondary to it, subservient to it, corollaries from it. Our simplest planful acts,—the eating of food to satisfy hunger, the quenching of thirst, the kindling of fuel to sustain the warmth of the body, the erection of dwellings for the sake of shelter,—all have reference to the functions of our body, *i.e.*, of a system of parts which are, at least to some extent, organically related. These volitional acts of ours are purposeful because the functions which they subserve are purposeful, that is, because the functions subserved are members of a system of correlated functions. And of the highest examples of human purpose in the realm of science, of art and social conduct the same is still more palpably true. The reciprocal dependence of intellect, feeling and will in the individual, the organic connexion between each individual and all others in the social union is the background from which all these purposes stand out, the underlying reference which they imply. Thus the Kantian definition that the idea of the outcome of an act precedes the act is not adequate to characterise purpose. If it were, then such idle doings as the deliberate pouring of water through a sieve, or the heaping of sand on the beach in a vacant moment would be properly termed purposeful conduct, which they are not. The notion of purpose involves not only that the idea of the outcome of what happens shall precede the happening, but that that outcome, whatever it be, shall fit into a scheme of interdependent happenings.

Thus the organic idea, and it alone, enables us to substantiate Kant's fundamental ethical thought that man shall be regarded not only as a means but also as an end. In an organic system every means is at the same time an end. Every part subserves the others, and is served by them. The whole not only presides over the arrangement of the parts, but is present in each part. For the organic idea is nothing else than that complete fusion of the idea of the one and the many, the source of which in the very constitution of the human mind we have indicated above. The one is in each member of the manifold because the plurality is but the explication of the unity, and each of the separate members is indissolubly related to every other because every other is as necessary to that complete explication as itself.

considered, while the specific duties of the family, of the professions, of the various social classes toward each other, etc.,—in brief, those duties which most obviously imply an organic relation, a correlation of dissimilars rather than a co-ordination of similars, are either scantily treated or wholly omitted. The conjugal duties, for instance, do not appear at all in this scheme of practical morality. The personal duties are accentuated. The social duties, in the strictest sense, are left out. And therefore the Kantian system—and this is perhaps the weightest objection that can be urged against it at the present day—cannot adequately help us in developing the social conscience, cannot satisfy that need which to-day is felt more keenly than any other, the need of a social ethics, the need of a clearer statement of the principles which shall determine social morality. In his private life, too, Kant displayed his individualism. He not only never married, but he did not recognise, in a finer sense, the ties of consanguinity. He discharged punctually his external obligations toward his kinsmen, but even his nearest, his brother and his sister, he kept at a distance, as his biographer tells us, in the belief that association should be a matter of free choice, and not subject to the constraint of natural bonds. Friendship, however, he celebrated in terms almost as eulogistic as those of Aristotle, friendship, the one social tie which is most congenial to the spirit of individualists, because it can be knit at pleasure and dissolved at pleasure.

These, then, are the objections or the points of criticism which I have desired to submit.

In defining freedom, Kant tries to set off by itself one of a brace of inseparable correlatives, to cut with one of a pair of shears.

In positing mere empty necessity and universality as the essential characteristics of moral action, he offers us the ghost or echo of natural law as the motive of conduct and represents the cogency which accompanies the synthetic process as if it could exist with the synthetic process left out.

His scheme of morality, founded on pure rationality, is in the air and has no footing upon earth. There is no one to whom we can be certain that we owe moral duty because there is no one of whom we are certain that he is a rational being, in the Kantian sense.

The moral rules cannot be deduced from the Categorical Imperative, and the deduction which Kant undertakes is based on the false assumption of an equality between human beings, which does not exist.

The conception of man as an end in himself, which is the most inspiring of his pronouncements, is at variance with the *Kritik of the Pure Reason*, and is not established by the *Kritik of the Practical Reason*. It cannot be justified in his system.

Finally, his ethics is individualistic and cannot serve us in our most pressing need at the present day. And yet, despite these shortcomings, Kant's ethics has sounded through the world with a clear, clarion note, has had a mighty awakening influence, and something like the flashes of the lightning that played on Sinai have played about it. It has had this influence because it emphasises the fundamental fact that the moral law is imperative, not subject to the peradventure of inclination, of temperament, or circumstance, an emphasis to which every moral being, at least in his higher moments, responds. It has had this influence because of the sublimity of the origin which he assigns to the moral law, because he translates it from the sphere of ephemeral utilities, whether individualistic or racial, into the region of eternal being, comparable with nothing in the physical universe except only the starry firmament. And last, and not least, because his own lofty personality shines through his written words. A man may be bigger than his creed, and, in the same way, he may tower above his philosophy. I think it is true to say that Kant's personality produces this effect upon his readers, that when we study his ethical writings we obtain the impression of one who was fallible, indeed, and shared in many ways the limitations of his time, but who, at the same time, was a man morally high-bred, a man in whom a certain chastity of the intellect communicated itself to every faculty, producing a purity of the entire nature, incomparable of its kind, a man to whom may be applied the words which Aristotle used of Plato, *ὃν οὐδ' αἰνεῖν τοῖσι κακοῖσι θέμις* ("whom the bad have not even the right to praise").

III.—'USELESS' KNOWLEDGE:

A Discourse Concerning Pragmatism.

By F. C. S. Schiller.

It will readily be understood that once the idealistic art of waking oneself up out of our world of appearances and thereby passing into one of higher reality is fully mastered, the temptation to exercise it becomes practically irresistible. Nevertheless, it was not until nearly two years (as men reckon time) after the first memorable occasion when he discoursed to me concerning the adaptation of the Ideal State to our present circumstances[1] that I succeeded in sufficiently arousing my soul to raise it once again to that supernal Academe where the divine Plato meditates in holy groves beside a fuller and more limpid stream than the Attic Ilissus.

When I was breathlessly projected into his world, Plato was reclining gracefully beside a moss-grown boulder and listening attentively to a lively little man who was discoursing with an abundance of animation and gesticulation. When he observed me, he stopped his companion, who immediately came hurrying towards me, and after politely greeting me, amiably declared that the Master would be delighted to converse with me. I noticed that he was a dapper little man, apparently in the prime of life, though beginning to grow rather bald about the temples. He was carefully robed and his beard and his hair, such as it was, were scented. One could not help being struck by his refined intelligent countenance, and his quick, observant eyes.

As soon as Plato had welcomed me, his companion went off to get, he said, a garden chair from a gleaming marble temple (it turned out to be a shrine of the Muses) at a little distance, and I naturally inquired of Plato who the obliging little man was.

[1] The contents of this interview have not yet been divulged, for reasons which will appear from the course of the present narrative.

'Why, don't you know?' he replied, 'Don't you recognise my famous pupil, Aristotlé?'

'Aristotle! No, I should never have supposed he was like that.'

'What then would you have expected?'

'Well I should have expected a bigger man for one thing, and one far less agreeable. To tell the truth, I should have expected Aristotle to be very bumptious and conceited.'.

'You are not quite wrong,' said Plato with an indulgent smile, 'he *was* all you say, when he first came hither. But this is Aristotle *with the conceit taken out of him*, so that you now behold him reduced to his true proportions and can see his real worth.'

'Ah, that explains much. I now see why *you* are even greater and more impressive than I expected, and why he appears to be on such good terms with you once more.'

'Oh, yes, we have made up our differences long ago, and he has now again the same keen, unassuming spirit with which he first charmed me, as a boy. Not that I was ever very angry with him even formerly. Of course his criticisms were unfair, and, as you say, his great abilities rendered him conceited, but you must remember that he had to make a place for himself in the philosophic world, and that he could do this only by attacking the greatest reputation in that world, *viz.*, mine. But you see he is returning, and I want to ask you how you fared after our last meeting. Did you find it difficult to get back to your world?'

'I hardly know, Plato, how I managed it. And, oh, the difference when I awoke in the morning! How sordid all things seemed!'

'And did you tell your pupils what my answers were to your questions?'

'I did, and they were much interested, and, I am afraid I must add, amused.'

'And after that what did you do? Did you persuade your political men to enact laws in the Ecclesia such as those we showed to be best?'

'I fear I have not yet quite succeeded in doing this.'

'Why, what objections have you failed to overcome?'

'I have not yet even overcome the first and greatest objection of all. I have not published the account of our conversation.'

'Why not?'

'To tell you the truth, I was afraid; I feared that your arguments might fare ill among the British Philistines.'

'Why should they fare ill, seeing that, both for other

reasons and to please you, I was conservative, wonderfully how, amid all my reforms, and proposed nothing revolutionary, but essayed only gently to turn to the light the eyes of the Cave-dwellers whom you mention?'

'You don't know how they abhor the light.'

'Yet I was only preaching to them the necessity of self-realisation.'

'I know that; but your language would have sounded unfamiliar.'

'Then you should repeat it, until it sounds familiar.'

'How splendidly you must have lectured, Plato! I hardly dare however to follow your advice. However mildly I might put them, your proposals would shock the British public.'

'And yet you told me that the infinitely more revolutionary and unsparing proposals of my *Republic* command universal admiration, and are held to be salutary in the education of youth.'

'Ah, but then they are protected by the decent obscurity of a learned language!'

'Surely your language is learned enough, and by the time they have passed through your mind my ideas will be obscure enough to make them decent and safe.'

'You are victorious as ever, Plato, in argument. But you do not persuade me, because there is another obstacle, even greater than that which I have mentioned.'

'Will you not tell me what it is?'

'I hardly know how to put it. But though it now seems almost too absurd even to suggest such a thing, you know everybody to whom I spoke disbelieved that I had really conversed with you, and thought that I had dreamt it all, or even invented the whole matter.'

'That, as you say, is too absurd.'

'Nevertheless, so long as people believed this, you see it was vain for me to try to persuade them of the excellence of your proposals. For I do not happen to have been born the son of a king myself, and am of no account for such purposes.'

'Still they could not have supposed that you could have invented all you said yourself.'

'I am afraid they did.'

'That was very unreasonable of them.'

'I am not so sure of that. For after all they had only my word for it that I had really met you.'

'But did they not recognise what I said, and my manner of saying it?'

'Not so as to feel sure.'

'And did they not think your whole account intrinsically probable and consistent?'

'I hope I made it appear so.'

'Surely they did not think that you could invent a world like mine?'

'I suppose they thought I might have dreamt it.'

'What, a world so much better, more beautiful, coherent and rational, and, in two words, *more real*, than that in which they lived?'

'There is nothing in all this to make it seem less of a dream rather than more.'

'Do you think they will believe you after this second visit?'

'I doubt it. Why should they?'

'It would seem, then, that we have no means of convincing these wretches of the truth.'

'I fear not; so long as they can reasonably maintain that it is no truth at all.'

'You do not surely propose to defend their conduct?'

'No, but I think it is by no means as unreasonable as you suppose.'

'I see that you are preparing to assert a greater paradox than ever I listened to from Zeno.'

'I am afraid that it may appear such.'

'Will you not quickly utter it? You see how keenly Aristotle is watching you, like a noble dog straining at the leash.'

'Let me say this, then, that though I can no more doubt your existence and that of the lovely world wherein you abide than I can my own, yet I cannot blame my fellow-men for refusing to credit all this on my sole assertion. *They* have not seen you, nor can they, seeing that you will neither descend to them nor can they rise to you. Your world and theirs have nothing in common, and so do not exist for each other.'

'You forget yourself, my friend.'

'True, I am a link between them. But what I have experienced is not directly part of *their* experience. It is far more probable, therefore, that I am lying or deluded than that I should establish a connexion between two worlds. Before they need, or indeed can, admit that what I say is true, I must show them how, in consequence of my visits to your higher world, I am enabled to act more successfully in theirs. You see, Plato, I am exactly in the position of your liberated Cave-dweller when he returns to his fellow-

prisoners. They need not, can not, and will not, believe that I speak the truth concerning what I have seen above, unless I am also able to discern better the shadows in their cave below.'

'And this surely must be the case.'

'I notice that you assumed this, but you did not explain how it was that the higher knowledge of the Ideas, for example the ability to understand the motions of the heavenly bodies, was useful for enabling men to live better.'

'But surely knowledge is one and the True and the Beautiful must also be useful.'

'I am not denying that, although your friend Aristotle would, unless he has greatly changed his opinion; I am only saying that you have assumed this too lightly.'

Instead of replying Plato looked at Aristotle, who with a slight hesitation ventured to suggest that possibly I was right, and that he had always been of the opinion that his master had overrated the practical usefulness of scientific knowledge. Plato meditated for a while before replying.

'It is possible that there are difficulties here which escaped my notice formerly. But did I not prove that the soul attuned to the harmonies of the higher sphere of true reality was also necessarily that most capable of dealing with the discords of phenomenal existence?'

'No doubt, Plato, your spectator of all time and all existence is a very beautiful being, and I too trust that in the end you may be right in thinking that Truth and Goodness must be harmonious. But neither in your time, nor in the many years that have passed since, has it come about that the pursuit of abstract knowledge has engendered the perfect man. I greatly doubt whether you convinced even your own brothers by your argument in the *Republic*, and you have certainly failed to convince those who have deemed themselves the greatest philosophers from the time of Aristotle to the present day. They would all in private scoff at the notion that speculative knowledge was by nature conducive to practical excellence, even though a few of the more prudent might not think it expedient to state this in public, while as for the great majority, they are always crying aloud that it is sacrilege and profanation to demand practical results from their meditations, and that only an utterly vulgar and ill-educated mind is even interested in the practical consequences which theoretical researches may chance to have. And this temper we observe not only among the philosophers proper, who are few and speak a "language of the gods" unintelligible to the many, but also more patently among those who pursue the sciences and the arts, and hold that "Truth for the sake of

Truth" and "Art for the sake of Art" alone are worthy of their consideration.'

'Is it true, Aristotle, that you also hold such opinions?'

'May I be permitted, oh my master, to expound my views at length, and yet briefly, as compared with the importance of the subject? You know that I do not find the method of question and answer the most convenient to express my thoughts (Plato nodded). Well then, let me say first of all that I do not hold it true that speculative wisdom (*σοφία*) is the same as practical wisdom (*φρόνησις*), or that the latter is naturally developed out of the former. I must, therefore, with all respect agree with our critic from a lower world that you have too easily identified the two. They are quite distinct, and have nothing to do with each other.'

Then observing an involuntary shudder on my part, 'Oh, I know,' he continued, 'what you are wishing to object. How can *σοφία* exist without the help of *φρόνησις* in beings that have to act practically in a social life, seeing that it does not as such concern itself with the means of human happiness?[1] I confess to an overstatement. It is not *quite* true that *σοφία* and *φρόνησις* have nothing to do with each other. There is a connexion, because practical wisdom has to provide speculative with the material conditions of its exercise. In other words, men are too imperfect to live the divine life of contemplation wholly and always. They must to some extent busy themselves with the needs of the perishable part of their nature, and the contingencies and changes of the sublunary sphere. And the regulation and satisfaction of such needs, the whole *ὕλη* of things that are capable of being otherwise (*ἐνδεχομένων ἄλλως ἔχειν*), appertains to practical wisdom.

'Without it, therefore, speculative wisdom could not exist among men, or at least could not maintain itself. But it does not follow that it thereby becomes dependent on practical wisdom, and still less, derivative from it. Practical wisdom serves speculative like a faithful servant. It is the trusty steward who has so to order the household that its master may have leisure for his holy avocations. It would be truer, therefore, to say that practical wisdom depends on speculative, without which life would lose its savour. But best of all is it to say that the two are essentially distinct and connected only by the bond of an external necessity.

'Having shown thus that practical and theoretical activity (*ἐνέργεια*) are different in kind, let me explain next why the

[1] *Cp. Eth. Nich.*, vi. 12, 1.

latter is the better, and the relation between them which I have described is a just one.

'They differ in their psychological character, in their object and in their value. Practical wisdom is the function of a lower and altogether inferior "part of the soul," of that "passive reason" (*νοῦς παθητικὸς*) which we put forth only while we deal with a "matter" whose resistance we cannot wholly master. Speculative activity on the other hand is the divine imperishable part of us which, small as it is in bulk in most men, is yet our true self.

'Again the object of practical wisdom is the good for man and the transitory flow of appearances in the impermanent part of the universe. But the good which is the object of our practical pursuit is peculiar and restricted to man. It is different for men and for fishes,[1] and although I do not deny that man's is the higher and that therefore fishing is legitimate sport, I feel bound to point out that there are many things in the world far diviner than man. The object of speculation on the other hand is the eternal and immutable which is common to all. I mean to include under this not merely the eternal truths, such as the principles of metaphysics and mathematics, but the eternal existences of the heavenly bodies and the unvarying character of the perceptions which are the same for all beings, *e.g.*, those of colour, shape, size, etc.

'Whence it follows, lastly, that the value of speculation is incomparably superior to that of practice. It is not useful, and that it should occasionally lead to useful results is merely a regrettable accident. In itself it is *beautiful* and the beautiful is self-sufficient. But it is not useful, because it is exalted far above the useful, and to demand use for knowledge is literally impiety. For to contemplate the immutable objects of theoretical truth is in the strictest sense to lead the divine life. For it contemplates the higher and more perfect, even though it cannot grasp the absolutely perfect as continuously as God can contemplate His own absolute perfection. Still to do this, in however passing a fashion, is to rise above death and impermanence and decay. It is to immortalise oneself.

'It follows, therefore, logically and in point of fact, that any attempt to hinder or control the concern with Pure Truth, is an outrage upon what is highest and best and holiest in human nature, an outrage which the law should punish and all good men rebuke, with the utmost severity.

[1] *Eth. Nich.*, vi. 7, 4.

Truth demands not merely toleration for herself from the State, but also the unsparing suppression of every form of Error, of every one who from whatever motive, whether from ignorance or sordidness or a mistaken and degrading moral enthusiasm, attempts to put any hindrance in the way of her absolute supremacy.'

Towards the end of this diatribe, to which I had at various points shown myself unable to listen without writhing, Aristotle had wrought himself up into a state of fervour of which I should hardly have deemed him capable. Plato, however, skilfully provided for the continuation of the discussion by blandly remarking:—

'Bravo, Aristotle, you have spoken most interestingly, and shown not only the analytic subtlety for which you are famous, but also that true enthusiasm which proves that you are not merely a logical perforating machine for wind-bags and other receptacles of gaseous matter. I will leave it, however, to our visitor to answer you, partly because the question has, it would seem, grown somewhat beyond my ken, and partly because I can see that he has not a little to say, and foresee that your differences will prove most entertaining and instructive.'

'You are right, Plato, in thinking that I differ profoundly with the doctrine to which Aristotle has just given such eloquent expression. But I feel that I am hardly equal single-handed to cope with Aristotle, and I wish that Iames were present to support me and to persuade you both of what I believe to be right and reasonable.'

'And who is Iames?'

'A philosopher, Plato, of the Hyperatlanteans, not one of the "bald-headed little tinkers" who are philosophers, not by the grace of God but by the favour of some wretched "thinking-shop," and a man (or shall I rather call him a god?) after your own heart. But, alas, he has been bridled, like Theages, by his own, and so has not been enabled to set forth fully the doctrine which he has named[1] *Pragmatism*, and which I would fain advance against that of Aristotle.'

'You describe a man whom I should be eager to welcome. You must bring him with you the next time you come, having told him what we have discussed.'

'I will if I can.'

'As for your present difficulty, you need not be afraid. You shall argue, with me as judge, and I will see to it that Aristotle obtains no unfair advantage over you.'

[1] Strictly speaking, I am reminded, it was Mr. C. S. Peirce, but one must not spring too many new philosophers at once on the ancients.

'You embolden me to try my best.'

'I do not think that *courage* is what you lack.'

'If I have courage, it is like yours, that which comes nearest to that of despair.'

'I never quite despaired.'

'Nor will I, though it is hard not to, to one regarding the present position of philosophy.'

'Aristotle is beginning to think that you are not going to answer him.'

'Then I will delay no longer. And first of all let me say that besides the views which have been taken by you and by Aristotle there seem to me to be two others, and that if you have no objection, I will state them, first recapitulating your own.'

'I have never an objection to be instructed.'

'I will begin with your own view then. It seemed to me to assume that there was no real or ultimate difference between the use of the reason in matters practical and matters theoretical. Knowledge was one and all action depended on knowledge, right action presupposing right knowledge. Knowledge, therefore, was useful, and there was no real opposition between the True and the Good, because the True could not but be good and the Good true. Nevertheless Goodness was born of Truth rather than Truth of Goodness. Have I understood you aright?'

'You have put things more definitely than I did, but not perhaps amiss.'

'Aristotle on the other hand, whom we have just heard, clearly thinks that Truth and Goodness have nothing to do with each other.'

'Pardon me, there is a goodness also of Truth, and in a sense speculative activity (*θεωρία*) is also action (*πρᾶξις*).'

'Yes, I know that; you mean as exercise of function? The speculative life also is something we *do*, it is the exercise of a characteristic human activity, and so has an excellence and contributes to our happiness.'

'Precisely.'

'Very well then, what I meant was that you did not derive practical from theoretic activity.'

'Certainly not.'

'The two are as far opposed as is practically possible.'

'Yes.'

'But speculative wisdom is by far the loftier?'

'Of course.'

'And far too lofty to be useful?'

'So I maintain.'

'Very well again. Now for a third view. Is it not possible to maintain with you that the practical and the speculative reason are different and opposed to each other, but that *the former* is the superior, so that in the end we must believe and practically act on what we do not know to be true? And is not this the converse of your view, Aristotle?'

'I suppose it is, but if *that* is *your* view, I tell you frankly that I never heard anything more absurd.'

'In that case it is lucky, perhaps, that it is not *my* view.'

'Who then has been confused enough in his mind to propound it?'

'It is the view of the great Scythian, Kant, who nearly criticised the reason out of the world.'

'Ah, I know, a queer little hunchback of a barbarian! He came here once, not so long ago, but would not stay and could not say anything intelligible. I could only make out that he was seeking the Infinite (faugh!), and was impelled by something he called a Categorical Imperative (unknown alike to logic and to grammar). Possessed by evil demons he seemed to us. Nothing Hellenic about him at all events!'

'I don't wonder at what you say, nor that Plato agrees with you. Nevertheless, he was a remarkable man, on his way, perhaps, to a higher truth, to which we may follow him, passing through the absurdity of his actual view, which is far greater than I have had time to indicate.'

'Let us go on, then, at once to something more reasonable.'

'I will go on then to the view of the Pragmatists. May one not say, fourthly, that there is no opposition between speculative and practical wisdom because the former arises out of the latter and remains always derivative and secondary and subservient and useful?'

'One may say that or any other nonsense, but if one does, one must say what one means. And one cannot always prove what one says.'

'I thought that would excite you, Aristotle. But I thought it better to reveal to you the whole aim of my argument before I proceeded to reach it.'

'You are still far from your aim.'

'I am coming to it, in good time. Meanwhile have you observed that this position which I hope to reach is the exact converse of the first, of Plato's?'

'You mean that you also deny the opposition between *θεωρία* and *πρᾶξις*, but derive the former from the latter?'

'Exactly so. I entirely deny the independence of the

speculative reason. And I assert that you were quite wrong in drawing the distinctions you did between the objects of *θεωρία* and of *πρᾶξις*.'

'Do you then deny that the *good* which is the aim of practical wisdom is merely human?'

'Not at all; but I assert that the *true*, which you imagine to be in some sense superhuman, is also merely human. It is the *true for us*, the true *for us as practical beings*, just as the good is the good for us.'

'How so?'

'Why, quite simply. Are not colour and shape and size perceived by the senses?'

'Certainly.'

'And are not the senses human, and relative to us and to our needs in life, in the same way as our perception of the good and the sweet?'

'I don't see why I need suppose them to be merely human.'

'I don't see how you can show them to be anything more. How do you know that your fishes see white as you do? And even if they did, that would only show that their senses were constructed like yours, and fitted to see and avoid you when you dangle a worm before their eyes with evil intent. And, generally, how do you fancy you can refute Protagoras' great maxim 'that which appears to each, is'? It is literally true, as soon as we look more exactly. Each being in the universe from your God (if indeed He be *in* the universe) down to the humblest blackbeetle, has his own individual way of perceiving his experience, and when we say that several perceive the *same* things what we really mean is that they *act* in a corresponding manner towards them. When you and I both see "red," that *means* that we *agree* in the arranging of colours, but leaves inscrutable (and indeed *unmeaning*) the question whether your experience in seeing "red" is the same as mine.

'And this agreement is both difficult, partial, and derivative. It is the fruit of much effort and of a long struggle, and not an original endowment. It has had to be carried to a certain pitch in order that it might be possible for men to live together at all. It has grown because it was useful and advantageous and those who could manage to perceive things in *practically the same* way prospered at the expense of those who could not. Thus the objectivity of our perceptions is essentially *practical* and *useful* and *teleological*. How then can you venture to ascribe to the gods, with whom you do not live, the perceptions which have come to exist as "the

same" for your senses, only in order that you might be able to live with your fellow creatures?'

'Even though our senses are different may we not perceive by their means the divine order of the same universe which higher beings perceive by such modes of cognition as are worthy of them?'

'Really, Aristotle, it astonishes me that you, living in a more real world, should still cling to the objective reality of the world you have now quitted for more than 2,000 years. Do you perceive it now?'

'No, but I did, and it may still be a part of the world which I no longer perceive.'

'Where then is it with reference to your present world? Is it north, south, east or west? Or is it not in the same space with it at all?'

'Still it is in space. And I still perceive a world.'

'So does every one who dreams. Your perceiving it, therefore, is no proof that it is ultimately real. And if you had entirely forgotten what you experienced formerly, you would not even be able to assert that it once was real *for you*. How can you venture, then, to attribute to all beings perception of one and the same world?'

'Perhaps I was mistaken about the world in which I then lived. But this present world at least is real, and seems to me fair enough to be worthy of being perceived even by the gods.'

'It is real no doubt for you, and for me also, *while I am in it*. But you may remember that what started the argument was the difficulty I had in convincing the denizens of your former world of the superior reality of this in which we now are. And, besides, how do you know that beings still higher than you, if you do not resent my mentioning such, may not enjoy the contemplation of worlds vastly more perfect even than yours?'

'Still this process cannot go on to infinity. You must at last conceive a world of ultimate reality, the contemplation of which by the supreme being would be absolute truth.'

'No doubt; you are speaking of what Plato would call the world of Ideas. But still that does not affect the argument. The world and the truth and good we were discussing are those *relative to us*.'

'I see that I was wrong in basing my argument for absolute truth on the perceptions of the senses. But of the eternal truths of mathematics and the like one may surely affirm that they necessarily exist for all intelligences?'

'Even this is more than I can grant you.'

'How so?'

'They seem to me to be also relative to us; nay, human institutions of the plainest kind.'

'Is it not self-evident and absolutely certain that the straight line is the shortest between two points?'

'That is the definition of distance. It will do in the sense in which you use it, if I may add, "for one living in a spatial world which behaves like ours, and apparently yours, once he has succeeded in postulating a system of geometry which suits his world".'

'I really do not understand you.'

'I fear I have not the space to explain myself, and to show you the practical aim of our assumptions concerning "Space," even if I dared to discuss the foundations of geometry in the presence of Plato. But it really does not affect my point. What I desire to maintain is that the eternal truths are at bottom postulates, demands we make upon our experience because we need them in order that it may become a cosmos fit to live in.'

'But I do not find myself postulating them at all. They are plainly self-evident and axiomatic.'

'That is only because your axioms are postulates so ancient and so firmly rooted that no one now thinks of disputing them.'

'Your doctrine seems as monstrous as it is unfamiliar.'

'I can neither help that nor establish it fully at this juncture. Perhaps, if the gods are willing, I shall find another occasion[1] to expound to you the proofs of this doctrine, and even, if the gods are gracious, to convince you. For it seems to me that in a manner you already admit the principle of my doctrine.'

'It would greatly surprise me if I did.'

'You contend, do you not, that concerning ethical matters it is impossible to have the right opinion without, at the same time or before, having the right habit of action?'

'And do I not contend rightly?'

'I am not denying that your view is right, though perhaps you overemphasise the impossibility of separating ethical theory from ethical practice. What I should like you to see, however, is that this same doctrine may be extended also to speculative matters. Why should we not contend that the true meaning and right understanding of theoretical principles also appears only to him who is proposing to use them prac-

[1] See the essay on "Axioms as Postulates" in the forthcoming volume of essays edited by Mr. Sturt.

tically? Can we not say that the Scythian was both prudent and wise who would not grant that 2 and 2 made 4 until he knew what *use* was to be made of the admission? Just as the wicked man destroys his intellectual insight into ethical truth by his action,[1] so the mere theorist destroys his insight and understanding of "theoretical" truth by refusing to use that truth and to apply it practically, failing to see that, both in origin and intention, it is a mass of thoroughly practical devices to enable us to live better.'

'I cannot admit that the two cases are at all parallel. In practical matters indeed I rightly hold that action and insight are so conjoined as not to admit of separation, but to extend this doctrine to the apprehension of theoretic truth would lead to many absurdities.'

'For instance?'

'Well, for one thing, you would have to go into training for the attainment of philosophic insight after the fashion of an Indian Gymnosophist whom I once met in Asia and who wished to convert me to the pernicious doctrine that all things were one.'

'How did he propose to effect this?'

'Well, in the first place he declared that truths could not be implanted in the soul by argument, but must grow out of its essence by its own action. So he refused to give any rational account of his opinions, but told me that if I submitted to his discipline, I should infallibly come to see for myself what he knew to be true. I asked him how, and was amused to find that he wanted me to sit in the sun all day in a stiff and upright posture, breathing in a peculiar way, stopping the right nostril with the thumb, and then slowly drawing in the breath through the left, and breathing it out through the right. By doing this and repeating the sacred word "*Om*" ten thousand times daily, he assured me I should become a god, nay, greater than all gods. I asked him how soon this fate was likely to befal me, if I tried. He thought enlightenment might come to me in one year, or ten, or more. It all depended on me. I replied that even if I failed to get a sunstroke I should be more likely to become an idiot than a god, but that I should already be one if I tried anything so ridiculous. You, however, seem to me to be committing yourself to the same absurdity when you try to extend to contemplation the method which is appropriate only to action.'

'But that, Aristotle, is just the point to be proved. My

[1] Cp. *Eth. Nich.*, vi. 12, 10.

contention is that Pragmatism extends to the acquisition of theoretical principles a method as appropriate to them as to practice. As for Gymnosophistic, I think that your Indian friend's method was really quite different. For though he professed to reach truth by training, there was no rational connexion between the truths he aimed at and the methods he advocated, which indeed could only produce self-deception. In moral matters, on the other hand, it is, as you say, necessary to dispose the mind for the perception of truth by appropriate action. If we declined to do this we should not start with a mind free from bias and impartially open to every belief—for that is impossible—but with one biased by different action in a different direction. So that really the training you demand is only what is needed to clear away the antimoral prejudices to which our character would otherwise predispose us. Is this not so?'

'Certainly; you speak well so far.'

'Thank you. May I point out next that the method of Pragmatism is precisely the same in theoretic as in practical matters? In neither can the truth or falsehood of a conception be decided in the abstract and without experience of the manner of its working. It gets its real meaning only in, from, and by, its use. And you can use it only if you desire to use it. And the desire to use it can only arise if it makes a difference to you whether or not you conceive it, and, if so, how. You must, therefore, desire, or, as I should say, postulate it, if you are to have it at all. If, on the other hand, your practical experience suggests to you that a certain conception would be useful, *if it were true*, you will reasonably give it a trial to see whether it is not "true," and if thus you discover it and find that you can work with it, you will certainly believe that it *is* "true," and the more confidently and profoundly, the more extensively useful it appears. Thus it is by hypothetically postulating what we desire to be true because we expect it to be useful, and accepting it as true if we can in any way render it useful, that we seem to me manifestly to come by our principles. Nor do I see how we could really come by them in any other way, or that we should be prudent if we admitted their claims to truth on any other ground.'

'Might they not be self-evident?'

'Self-evidence only seems an accident of our state of mind and in no way a complete guarantee of truth. Much that was false has been accepted as self-evident and no doubt still is. Its self-evidence only means that we have *ceased* to question a principle, or not yet *begun* to do so.'

'And can you not see that there are intrinsically necessary truths?'

'Not a bit. Unless by necessary you mean needful, an intrinsic necessity seems to me a contradiction. Necessity is always dependence, and so hypothetical.'

'You blaspheme horribly against the highest beings in the universe, the Deity and the Triangle!'

'Even though you should threaten to impale me on the acutest angle of the most acute-angled specimen of the latter you can find in your world of "necessary matter" (μὴ ἐνδεχομένων ἄλλως ἔχειν), I should not refrain from speaking thus. For I want you to see the exact point of my doctrine, and where it diverges from your own.'

'Of course—I see that. If you can prove your derivation of the Axioms and show that the necessary is only the needful, the speculative reason must say a long farewell to its independence.'

'Perhaps it will be none the worse for that.'

At this point Plato interposed a question.

'Have I understood you rightly, most astonishing young man, to affirm that theoretic truth was wholly derivative and subservient to practical purposes?'

'You have.'

'In that case would you not have to regard theoretic falsehood as, in the last resort, practical uselessness?'

'You are quite right, Plato, and I am glad I have made my point so clear to you.'

'You are very far then from agreeing with a statement which I found lately in a book by one of your Oxford sophists[1] who seemed to be discussing much the same questions, that "the false is the same as the theoretically untenable"? *You* would rather say that it was "the same as the practically untenable"?'

'Of course. Or rather that the theoretically untenable always turns out to be the practically untenable.'

'The sophist whom, with difficulty, I read seemed to see no way from the one to the other.'

'I don't suppose he wished to. It would have upset his whole philosophy, and unfortunately he is getting old.'

'And even you have asserted the existence of such a way rather than shown it to us.'

'I must confess, Plato, that much as I should have wished to show you that my way is both practical and practicable I have not had the time to do this. But if I had, I feel sure that I could do so.'

[1] Bradley, *Appearance and Reality*, p. 155.

'Say on; there is no limit but life itself to the search for Truth.'

'That is all very well for *you*, whose abode has been in these pleasant places for so long, and to whom, it seems, there comes neither death nor change. But *I* have to go back.'

'To your pupils?'

'Yes, and already I feel the premonitory heaviness in my feet. It will slowly creep upwards, and when it reaches the head I shall go to sleep and wake again in another world far from you.'

'I am sorry; though it will interest us to see how you vanish. But before you pass away, will you not, seeing that all truth you say is practical, tell us what in this case is the practical application of the "truths" you have championed?'

'With the greatest pleasure, Plato, that is what I was coming back to. They form my excellent excuse for neglecting to tell men about your ideas.'

'I do not quite see how.'

'Why, so long as my knowledge of your world is useless to them, it is for them, literally and in the completest way, false!'

'But surely both they and you must admit that there is much useless knowledge?'

'There is much, of course, which is so called, and actually is useless for certain purposes, but nothing which can be so for all. Much that is 'useless' is so because certain persons refuse to use it or are unable to do so. Pearls are useless to swine, and, as Herakleitos said, gold to asses. And so neither ass nor hog could truly call them precious. Or, again, often what is called useless is that which is *indirectly* useful. It is useful as *logically completing* a system of knowledge which is useful in other parts and as a whole. Or perhaps in some cases the use has not yet been discovered. A great deal of mathematics would be in this position. Or lastly there is a good deal of knowledge which is comparatively, or as Aristotle would say, accidentally, useless, because the time spent in acquiring it might be more usefully employed otherwise. For instance, you might count the hairs on Aristotle's head, and the knowledge might enable you to win a bet that their number was less than a myriad But ordinarily such knowledge would be deemed useless seeing that you might have been better employed.'

'But would these explanations cover all the facts?'

'Not perhaps quite all in our world, in which there is also seeming "useless knowledge," which is not really knowledge

at all, but falsely so called; being as it were a parasitic growth upon the real and useful knowledge, or even a perversion thereof, a sort of harmless tumour or malignant cancer, which would not arise in a healthy state and should be extirpated wherever it appears.'

'Still it exists.'

'As evil exists; indeed it seems to be merely one aspect of the existence of evil.'

'Are you not now extending your explanations so far that your paradox is in danger of becoming a truism? Can you any longer give me an instance of really useless knowledge?'

'Of course not, Plato, seeing that my contention is that there is none and that in proportion as any alleged knowledge is seen to be useless it is in danger of being declared false! The only illustration I can give, therefore, is of knowledge falsely so-called, which is thought to be useful, but is really useless, and therefore false.'

'Even of that we should like an example.'

'I see, Plato, that you are willing to embroil me with most of the philosophers in my world. For if I am to speak what is in my mind, I must say that knowledge of the Absolute or, what comes to the same, of the Unknowable, seems to me to be of the kind you require. Aristotle, no doubt, might speak similarly of your own Idea of the Good.'

'Oh, but I intended it to be supremely useful both in knowledge and in action.'

'No doubt you did, but because you were not able to make this plain, Aristotle would not admit it to be true.'

'We had better let bygones be bygones.'

'Very well; let me in that case give you another example, which now concerns us nearly, of knowledge which seems false, because it seems useless. I mean knowledge about the world in which we now are, regarded with the eyes of those whom in a little while I shall no longer dare to call benighted dwellers in the Cave. Until we can make our world useful to them, it is false: I am a liar and you are the unreal figments of my creative imagination.'

'You quite alarm me. Can you not devise a way, then, whereby we might prove ourselves useful, and so existent, to your friends?'

'Certainly. Could you not appear at a meeting of the Society for Psychical Research and deliver a lecture, in your beautiful Attic, on the immortality of the soul? That would be very useful; it might induce some few really to concern themselves with what is to befal them after death, and lead them perhaps to amend their lives. I know the Secretary of

the Society quite well, and I think we could arrange a good meeting for you!'

'*Εὐφημεῖ ὤνθρωπε.* I could not think of such a thing: it would be too degrading. Besides, to tell you the truth, I have long ceased to feel any practical interest in the generality of men and their world. I would do something for you, but *you* already *know* and do not need persuading. Can I not do something to benefit you personally, whether it was useful, and therefore convincing, to others or not?'

'I suppose, Plato, it is conceivable that you could, if you liked, but that it is very likely that you would not like.'

'I have already told you that I will do anything short of mixing myself up with a world like yours. I once tried it, soon after I came here, but I soon discovered that Herakleitos was right in thinking that souls retained their power of smell. Indeed, I suppose my nose must have become absurdly sensitive, for I was driven back by the stench of blood before I had got very far into its sphere. I simply could not go on.'

'I do not wonder. Things are as bad as ever in this respect, except that we have grown more hypocritical about our murders. But I can tell you how you could not only help me, but even persuade the others.'

'How?'

'By useful knowledge.'

'Of what?'

'Could you not by some divination predict to me what horses were about to win what races, or what stocks were going to rise or fall how far? Such knowledge would be most useful and therefore truest by the admission of all men: it would enable me to amass great riches and if I were rich enough all would believe whatever I might choose to say. Money talks, as the saying is, and none dare doubt but that it speaks the truth. In this manner I might get men to credit the whole story of my visit to you. For my credit would then be practically limitless.'

'I suppose you are joking and do not seriously expect of me anything so atrocious. Besides, why should you attribute to me, or to any of those who have departed to higher spheres, any such capacity for knowing what goes on in the world we are glad to have abandoned?'

'I am sure I don't know; only that is what men commonly suppose about such matters. They think that there is far more education in death than ever there was in life, and that even the greatest fool, as soon as ever he is dead, may be expected to be *wise* enough to know all things, and *good* enough to place his knowledge at their disposal.'

'They seem to me as foolish as they are selfish.'

'No doubt; still there is that germ of truth about their action which we saw. Whatever knowledge cannot be rendered somehow useful cannot be esteemed real.'

'Alas, that it should be so!'

'I do not on the whole regret it, although I can see it must annoy you to be considered as part of the non-existent of which you always thought so meanly. But really I must be going, and return to my Cave to convince, if possible, my fellow Troglodytes that you still live and think, and to impress on them, if I can, the importance of the "two-world problem," both for its own sake and as an illustration of the truth of Pragmatism.'

IV.—THE KEYNOTE TO THE WORK OF NIETZSCHE.

By Dr. Julius Goldstein.

When Nietzsche first became known in Germany, by an article of the Danish literary historian Georg Brandes, the general attitude of criticism towards him was that of derision, and the way in which this criticism worked was by taking words and sentences out of the logical connexion and putting them together. The result was that Nietzsche's philosophy was at first regarded as an ethical and intellectual monstrosity, in which light English people often consider it even now. But in spite of this critical condemnation Nietzsche secured hold of Modern German Literature. His aphorisms re-echoed in literary discussions, he was studied with enthusiasm wherever in Germany the waves of the Modern Literary Movement ran high. He became a public event. Nietzsche exercised, and is still exercising, the same sway as Schopenhauer did forty years ago and Edward von Hartmann thirty years ago.

A second stage of criticism followed. Instead of flippant and prejudiced derision on the one side and glorifying deification on the other side, an appreciative and serious criticism was inaugurated in which philosophers and theologians took an active part. A new literature sprang up, analysing the thoughts of Nietzsche and acknowledging in him the merit of having propounded real and important new problems.

In England the criticism of Nietzsche has, generally speaking, not yet arrived at the second stage. On the occasion of his death newspapers and periodicals gave a more or less comprehensive account of his life and writings, but in reading all these articles and notes one had not the impression that the writers had grasped the keynote of Nietzsche's work. But this is indispensable, if a philosopher who is even paradoxical for his own countrymen is to be understood in a foreign country.

In this paper I shall try to point out this keynote of the work of Nietzsche by showing that the chief problems which

Nietzsche raised, far from being confined to the province of esoteric German philosophy, are, on the contrary, of general European interest. They belong to that universal range of problems which have arisen out of the conflict between the the one-sided radical movement of the nineteenth century and ethico-religious idealism of the past, an idealism which has had its most powerful historical realisation in Christianity, to use that word in an undogmatical and broad sense. In Germany this conflict has been carried on in the keenest way. I shall therefore follow up the special evolution of German thought in the second half of the nineteenth century; and inquire how it was that the teaching of Nietzsche arose. This teaching is chiefly characterised by two features, the "transvaluation of values" (*Umwertung aller Werte*) and the ideal of the "Overman" (*Uebermensch*).

Before entering upon my subject I must remark that I do not propose to exhaust all the sides of Nietzsche's many-sidedness. My aim is to give in general terms a sort of perspective view of the characteristic work of Nietzsche without caring for the succession of his books or the various stages of his thought. The first third of the nineteenth century is the golden age of German philosophy and literature. Carlyle then called the Germans the people of poets and thinkers. At that time poetry and philosophy were the chief interests of the Germans; what is called in Germany "innere Bildung" (self-culture) was the central point around which gathered all the highest aspirations of the prominent personalities. This period found its fullest philosophical expression in the system of Hegel who combines in his speculation all the tendencies of his age. There was one great presupposition underlying the whole German idealistic movement: Whatever is spiritual in man and mankind is the unfolding of a Divine Spirit. In the history of art, religion, morality and philosophy we have the gradual evolution of the spiritual world basis. The process of the Universe is a spiritual one, and this world of space and time is the appearance of a spiritual world, the world of reality.

After the death of Hegel, his system broke down and with it German idealism. The period of Materialism began. The causes of this intellectual and spiritual revolution are not only intellectual. The realistic side of life came into the foreground. Its centre of gravity was removed to the interests arising from our social existence. Natural Science, after having emancipated itself from the arbitrary treatment of speculation, brought to light those great discoveries which have changed the face of the earth and the relations of the

nations. Social and political ideals pushed aside the ideals of "self-culture". A new philosophy arose out of the new *Zeitgeist*, which had the deepest contempt for metaphysics, but which was nevertheless as metaphysical as Idealism. Feuerbach, the first leader of the anti-Hegelian movement, has expressed in a very neat way both his own conception and the conception of his time: "God was the thought of my youth, then came Reason, last of all came Man. He, Man alone, is and must be our God. Outside of him Salvation cannot be." It was in this subjectivistic theory of religion that Materialism was first mirrored.

For Feuerbach God is only the projection of Man's wish. Or, to put the matter antithetically:—

Hegel says: Man is the product of God.

Feuerbach says: God is the product of Man.

Hegel maintains that Matter is the product of Spirit. Feuerbach, like most of the post-Hegelian Materialists, turning Hegel topsy-turvy, maintains that Spirit is the product of Matter. The *mot* of Feuerbach: "der Mensch ist was er isst" (Man is what he eats), wittily expressed his position.

Marx, the founder of German Socialism, shows a similar tendency in his materialistic philosophy of history. For Hegel ideas are the moving forces in history; for Marx ideas are only the reflexion of the economical processes which alone determine the historical evolution of Mankind.

Materialism was reinforced by influences from England. The Darwinistic theory destroyed by its mechanical explanation of organic forms the last bulwark of a teleological view of the Universe. Darwin's book was received with enthusiasm in Germany. What Darwin only very carefully and cautiously tried to prove was taken up by his ardent devotee Ernst Häckel in Jena as a new gospel. And with the new dogmas of this gospel: evolution, struggle for life, selection, adaptation, Häckel and his adherents made havoc with the old outworn dogmas of the Christian Church. For them the walls which divide Nature and Man had fallen; there was no longer an incomprehensible gulf between man and animal, both belonged to the same range of beings, both were likewise subject to the same laws of the Universe. Man no longer occupied an exceptional place outside the infinite concatenation of natural events.

This theory of evolution in its naturalistic form, which has filled the age with its triumphs, meant for its followers a theoretical change in the province of science and philosophy and a resignation of long-cherished hopes and beliefs; among them the belief in the immortality of the soul. But there

was a rich compensation for the loss of a transcendental world—the faith in the ascending evolution of mankind. Hegel had ventured the daring saying: "Every form of intelligence is real and everything real is a form of intelligence" Hegel was right to say so, for he regarded the world as the realisation of Reason. Naturalism however had just destroyed the idea of a Universal Reason; Naturalism denied the existence and the work of Reason in the world. Was that not the same as to abandon the Hegelian optimism? But feeling is much more conservative than understanding. And the feelings of these men were still imbued with the happy optimism of the Hegelian period. Therefore they both held that the new creed of science was able to prop up optimism with real facts. Science has proved—so ran the argument—that man and this glorious civilisation had arisen from the lowest stages of animal life, that man by his own energy had in the long course of ages been able to work himself up to his present high stage of culture. This truth gives us reason enough to hope that man's power over nature will go on increasing, and that so he will be able finally to root out the evils which still distress mankind. Men were dazzled by this ideal prospect; their eyes were blinded so that they could not see the dependence of their optimism upon the idealism of Hegel. They were insensible to the blow which Naturalism had dealt at the root of the spiritual existence of man

But what if this prospect should turn out to be a phantasmagoria? What if Naturalism should prove a Janus head whose other face looked as grim and gloomy as this face looked bright? What if the very facts underlying their theory were by similar inexorable logic shown to support a dark pessimistic view of the universe and of man?

That this was the case was proved by the pessimism of Schopenhauer. Historically Schopenhauer is completely independent of Darwin, but in the mind of those who embraced the philosophy of Schopenhauer Darwinism only reinforced pessimism.

Schopenhauer wrote his chief work, *Die Welt als Wille und Vorstellung*, about 1817. Nobody noticed it. But in the days of political failures—it was the reactionary period after 1848—men felt more inclined to pessimistic views. For Schopenhauer the world is the realisation, the objectification of unreason, of an objectless, unconscious, unrelenting will. He tried to prove his thesis empirically by bringing forward all the seamy sides of life, by illustrating with an unrivalled power of exposition the utter misery of the world and of man.

Schopenhauer's doctrines laid hold on the mind of Nietzsche in the strongest way. Nietzsche himself writes: "One day I picked up the volume and I know not what demon said to me: 'Take that book home'. I took it home, and throwing myself with my new treasure into a corner of the sofa I began to let the energetic gloomy genius work upon me." In the course of his thinking Nietzsche dropped the metaphysics of Schopenhauer, but he kept the pessimistic view. The cheerful picture of a happier mankind which was to arise in the course of evolution had no power over his mind. Like his teacher, Schopenhauer, he did not believe in an evolution leading to an increase of happiness. His pessimism was reinforced by Darwinism and naturalistic philosophy. He was deeply influenced by the grim-looking side of Naturalism, that side which Huxley has depicted so vividly in *Evolution and Ethics*.

Nietzsche's personality was full of religious fervour and feeling; he was brought up in a pious Protestant faith; at the same time he had an almost demoniacal craving after truth, truth in its absolute and fullest sense. He had learnt from Schopenhauer to put the questions: "Is life worth living? What are the true values of life? Has it any valuable ends? When such a personality comes face to face with what was in his time the outcome of scientific development—what will happen? Such a man will not see the advantages which natural science has brought to mankind, he will not feel the intellectual joy excited by its discoveries: his thoughts, his feelings, his whole being will be hypnotised by the one point which naturalistic philosophy has treated as accidental, as a matter of secondary importance—the breaking down of the idea of God or, as Nietzsche has styled it, "the death of God".

That Nietzsche made this outcome of the naturalistic movement of the nineteenth century the starting-point of all his ideas, of his whole philosophical work, secures him a place among the original thinkers of mankind. Nietzsche was the first to realise that mankind, abandoning the idea of God, had changed its nature, and with God gone not only mankind but reality itself had lost its old meaning. For Nietzsche "the death of God" was an experience of more than mere personal importance, it was the greatest historical revolution which mankind had undergone. Through all his books one can hear re-echoing the sound of the strife produced in his mind by the "death of God".

Let us listen to Nietzsche himself on this subject. Nietzsche was not only a thinker but a great poet too; he

did not give abstract formulas; his artistic imagination lent its gloomy colours to his ideas; instead of a bare sentence he gives a picture full of suggestions and passionate impressiveness.

The passage which I am going to quote is an outburst of despair on account of the death of God. It is to be found in the *Froehliche Wissenschaft*, a book not yet translated into English. Nietzsche introduces a madman who runs about searching for God in broad daylight with a lantern, and clamours thus:—

"Where is God?" he cried. "I will tell you. We have killed him, you and I. We are all his murderers. But how have we done it? How have we drunk up the waters of the sea? Who gave us the sponge to wipe away the whole horizon? What have we done when we unchained this earth from its sun? Whither goes it now? Away from all suns? Are we not ever on the brink of a catastrophe, continually stumbling? Backwards, sidewards, forwards in every direction? Is there still an over or under? Are we not straying through a never-ending Naught? Is it not getting colder? Does not the darkness grow deeper and deeper?—Hear we nothing yet of the noise of the grave-diggers who bury God? God is dead! God remains dead and we have killed him. How shall we console ourselves? The worst of all murderers! Our Holiest and Mightiest has bled to death under our own knives! Is not the greatness of this deed too great for us?"

Nietzsche was well aware that the greatness of the event was not felt by his contemporaries. Therefore he regards it as his task to follow out its consequences relentlessly and as he has put it—"even if it should lead to crime" ("radical bis zum Verbrechen"). His books, *Morgenroete*, *Froehliche Wissenschaft*, *Genealogie der Moral*, *Jenseits von Gut und Böse*, are devoted to this task.

In brief his reflexions on the breakdown of Christian religion run as follows: Naturalism maintains that the world with which natural science deals is the only real world. If this is generally accepted—as it was in the second half of the nineteenth century and sometimes nowadays—then all the ideas and tendencies which connect the life of man with a spiritual world are wrong and must therefore be destroyed. Religion and especially Christianity must fall; for the very possibility of Religion depends on the reality of an invisible transcendental world, a metaphysical background of life. This last, having turned out to be only imaginary, Christianity in its broadest sense has ceased to exist.

This consequence Nietzsche held in common with other prominent personalities of his age. I may remind the reader of the then famous book of David Strauss, *The Old and the New Creed*. The old Creed is Christianity, the new Creed is Naturalism. Strauss, the famous theologian, boldly takes the side of the new creed, going to the root of the matter with the question: Are we still Christians? which he answers in the negative.

But Nietzsche did not stop here. Christianity is not an isolated fact. It has passed through a history of nearly 2,000 years and it has filled this history with its moral "values". The highest and loftiest ideals have sprung from the Christian belief in a Universal Justice, a moral order of the world. How are we to preserve these moral values if Christianity with its metaphysical presuppositions is to fall? Here we are in the centre of the most stirring problem of the present. All other serious thinkers who have denied the metaphysical foundation of Christianity were eager to preserve its moral values. Mill, *e.g.*, in his most interesting essays on Religion is wrestling with this problem and finally comes to the conclusion that the Christian values are to be preserved. But this result is brought about more by his good intention and utilitarian habit of thought than by logical reasoning on his part.

Nietzsche takes boldly the side of logical reasoning and denies the standard of Christian morality, denies the ruling moral values—as being based upon imaginary presuppositions. This is the origin of his famous demand for a 'transvaluation of all values' (*Umwertung aller Werte*) which means on the one side an ethical iconoclasm directed against Christian values and on the other side a creating of new values compatible with the modern presuppositions of Naturalism. This dependence of ethics on metaphysics is a thoroughly German tendency of Philosophy. The idea of "transvaluation of values" ceases to be paradoxical if one keeps in mind the line of thought by which Nietzsche had been led to it. The reproach of immorality which has been cast upon his aphorisms is quite illogical, for the moral condemnation is based upon those Christian values the validity of which Nietzsche denies.

I desire to impress upon the reader the necessity by which Nietzsche was driven to this revolutionary idea. It was not personal idiosyncrasy, it was not caprice, but it was the logical outcome of Naturalism. Consider the Universe in the light of Christianity and in the light of Naturalism. Christianity fully acknowledges a mechanical system of

Nature, but it maintains that by the mechanical laws a reasonable and valuable end is brought about.

Naturalism regards the Universe as a mechanical system without any meaning or end. Now consider man! According to Christianity or to any philosophical idealism—man though forming part of the system of nature belongs on his spiritual side to a Divine Reality. According to Naturalism man is an animal among other animals. All that appears spiritual to him must be reduced to the level of physiology and biology. The real being of man is to be found in these two sciences.

It is not necessary to go on comparing the two views. They are radical contraries and the difficulty naturally arises as to how the man who is a mere animal—though a refined one—can continue to have the same ethical values and ideals as before. Man and his life had a meaning on the idealistic view of the world. This view cannot stand its ground before the claims of science. Man as an animal or, as Nietzsche has called him, as a "valuing animal" has no values, no meaning until now, his old "table of values" being broken.

Nietzsche takes up the position of a new priest of a mankind bereft of God. He, Nietzsche, will give to mankind new values, a new goal for the historical evolution the "Uebermensch".

We have arrived at *Thus Spake Zarathustra.*

In *Thus Spake Zarathustra* Nietzsche tries to give an answer to the question which he has raised in the *Morgenroete;* "When all customs and morals are finally destroyed upon which rests the power of gods, priests, and saviours, when, therefore, morality in its old sense shall have died then comes—what will then come?" Zarathustra, the mouthpiece of Nietzsche, has found an answer in his solitude and he is going to bring his new gospel to men. When stepping down from his mountains he meets an old hermit.

"And what doth the Saint in the forest?" asked Zarathustra.

The saint answered: "I make songs and sing them and making songs I laugh, cry, and hum. I praised God thus . . . " When Zarathustra was alone, however, he spake thus into his heart:—

"Can it actually be possible! This old saint in his forest has not yet heard aught of God's being dead!" And Zarathustra goes on preaching the death of God, and the new god he brings,—the "Uebermensch," a god whom man himself is summoned to create.

A new period in history begins for Nietzsche with this

preaching of Zarathustra. Nietzsche looks at history as passing through three stages which he characterises by the symbols of the camel, the lion and the child.

The spirit of the Christian past is like a camel laden with the load of "Thou shalt". This "Thou shalt" contains all those values which are against the natural instincts of man. Truth for truth's sake, justice for justice's sake are Christian values or, as philosophy styles them, "absolute values". These values belong to the spiritual side of man. Christianity maintains that by following them man's life is lifted up in a higher sphere of reality.

But the age of Christianity is past for Nietzsche. There is no reality beyond the world of space and time. The spiritual world of idealism is naught and absolute values have no meaning.

This knowledge leads to the second age of history, the age of destruction, the symbol of which is the lion. The spirit must become a lion to tear asunder the trammels which the Christian age has laid upon the natural instincts of man. The aim of this age of transition is to inspire man with the courage to follow his natural instincts. Therefore Nietzsche glorifies the criminal not for his being a criminal but because he acts on principles which are not Christian. Nietzsche takes the criminal as a testimony that Nature is not completely extinguished in man, "To create freedom for new creation—for that the lion's power is enough".

But after this age of necessary destruction the Spirit must become a child. "The child is innocence and oblivion, a new starting, a play, a wheel rolling by itself, a prime motor, a holy asserting." With these poetical terms Nietzsche introduces the third age, which has done away with all dependencies on the past, with all metaphysical prejudices, an age, where, as Dr. Alex. Tille has rightly put it, "Physiology is the sole arbiter, on what is great and what is small, what is good and what is bad, where physiological ascent or decline is the last judgment of moral action. This moral standard is beyond good and evil in the sense of our traditional morality.

This third age is to become the age of the "Uebermensch" who is ruled by one great passion "the will for power". In the "Uebermensch" Nietzsche gathers together all the positive features of the new ideal which he has in his mind.

But the attempt to cut off all dependence upon the past is a vain one. In the picture of the "Uebermensch" many of the old values glide in unconsciously. Despite of certain expressions of Nietzsche which seem at first sight to point

in that direction, the common mistake which treats the Overman as a mere beast of prey was far removed from Nietzsche's intention; for the "Uebermensch" has earned for himself the right to exercise power. He has the greatness which exacts submission and he has learnt to govern himself even by renunciation. There is something of the spirit of Goethe as he portrays the ideal-man in his poem "Die Geheimnisse" breathing again in the ideal of this latest, most unclassical and most romantic figure of German literature.

Nietzsche has two different views as to how the "Uebermensch" comes into existence. The one view has a Darwinistic colouring. Nietzsche believes in the possibility of breeding a new species of man. As man has followed the ape in biological evolution, so the "Uebermensch" as a higher biological being has to follow man, not by a happy chance of nature, but by the creative will of man, by means of a hereditary aristocracy. But this ideal is practically impossible, for the change of one species into another presupposes thousands of years. It is further a very doubtful question whether acquired qualities are inherited from generation to generation. Genius is mostly not hereditary.

The other conception of the "Uebermensch" is to be found in the "Antichrist". Here Nietzsche maintains that man is a biological end. The "Uebermensch" has only relative significance—a being who is a superior by his qualities, coming out as a chance product in historical evolution.

In postulating the "Uebermensch" Nietzsche represents the reaction against the democratic tendencies of his age. *Thus Spake Zarathustra* and most of his other books contain a spirited criticism of contemporary thought and life. But Nietzsche has not given positive ideals which can be followed. That lies in the nature of the subject. Nietzsche is the most unhistorical thinker of the nineteenth century. A philosopher who thinks that it is possible to begin history anew, who looks at Christianity as an historical *faux pas* has not learnt the lesson of our age of history. He holds the belief of the "Aufklaerung," that by the arbitrary will and action of a single man history can take another course.

Nietzsche's importance lies more in his suggesting general tendencies which present a sound antagonism to stereotyped prejudices. It is his struggling with the problems of the present rather than his positive results which makes the significance of Nietzsche. He does not belong to those philosophers who have given new truths to mankind, but to those who have aroused mankind by putting new questions. He

has thrown back German philosophy upon the ultimate problems of our spiritual and moral life, and by doing so he has given a new impetus to the revival of philosophical idealism whose symptoms can be recognised in the German speculation of the present.

He has seized hold of men by the impetuous passion and fierce enthusiasm with which he treats the problems of his time. His time has to face the problems—especially the religious one—which he has formulated in a new and startling way. In this sense we may apply to Nietzsche the saying of Hegel: "The condemnation which a great man lays upon the world is to force it to explain him".

V.—CRITICAL NOTICES.

Münsterberg's Grundzüge der Psychologie. Band i., Allgemeiner Teil. Die Prinzipien der Psychologie. Leipzig, 1900. Pp. vii., 565.

Prof. Münsterberg's work, which though nominally a "first part" is really logically complete in itself, is a courageous attempt to determine on first principles the relation of psychology to the other sciences, physical and mental, to practical life, and to philosophy. The importance of the subject as well as the eminence of the writer should ensure it careful study on the part both of psychologists and of philosophers. The main object of the book, as the author observes in the preface, is polemical; it is intended as an "idealist" manifesto against "naturalism" in philosophy. More definitely, it aims at a synthesis of analytical and empirical psychology with Fichtean philosophy. Empirical psychology of the most rigidly atomistic type is to have its right to existence fully conceded, but at the same time the reality of the individual self and its ethical purposes, which analysis appears to dissolve, is to be secured by showing on "epistemological" grounds that atomistic psychology deals from first to last with scientific abstractions bearing no direct relation to actual life. The program is an attractive one, and with the author's general position most readers, except those who are themselves phenomenalists of a crude type, will probably sympathise. For two things at least are certain; that the advance of analytic psychology cannot be arrested by any arbitrary *ne plus ultra* of the moralist or metaphysician, and that either analytic psychology does not directly deal with realities or else the highest human interests are preeminently illusory. If we are not to sit down with this uncomfortable and unphilosophical conclusion we must somehow find a way of safeguarding the rights of both analytic psychology and constructive philosophy. It does not, however, follow that we can all acquiesce in the details, or even in the general outlines, of Prof. Münsterberg's solution of the problem, and precisely because of the importance of the subject it will perhaps be most profitable to devote the greater part of the present article to the indication of points of difficulty and possible divergence from the author. Some of my difficulties may perhaps be due to a reviewer's misunderstanding of his author's meaning, for Prof. Münsterberg's

book is by no means easy reading, but others, I trust, will be found suggestive of serious philosophical questions. And first, a word as to one or two general features of the book. Prof. Münsterberg, it will be seen, is above all things "epistemological" in his methods; *Erkentnisstheorie* and its requirements figure on many, if not most, pages of his book. I am forced to say that some of the *erkentnisstheoretisch* doctrines he enunciates tend to strengthen a suspicion or prejudice to the effect that *Erkentnisstheorie* is another name for irresolute and half-hearted metaphysics. But of this more in detail directly. A second peculiarity with which some of us, who are in general sympathy with the writer's aims, may find it hard to agree is his constant insistence on the alleged primacy of the volitional element in our nature. Of this also I shall have more to say below. For the present it may be observed that the "primacy of will," if it be a truth, can only be established by metaphysics; nothing is proved by merely appealing to the importance of the volitional aspect for practical life, or its priority in development.

To proceed, however, to a more detailed examination of the author's argument. In chapter i. we have a preliminary sketch of the present-day tendencies in psychology, which leads up gradually to Prof. Münsterberg's fundamental distinction between two types of science, the *objectifying* and the *subjectifying*. Objectifying sciences deal, in his view, with objects which merely "are," "are there" or "are given" apart from any relation to the purposes and interests of the self, in fact with physical and psychical processes conceived simply as processes, and apart from their "value" or "meaning" for an acting subject. The method of such sciences is that of description and its necessary complement, causal explanation by means of general laws. "Subjectifying" sciences, on the other hand, deal not with "what is" or "what is given," but with the meaning and worth of things for subjects which are essentially active; thus they are concerned not with "existence" as such, but with "values," and their method is not description of processes but "understanding" and "interpretation" of meanings. (Thus one might say the distinction amounts to a restatement of the antithesis between mechanical and teleological science.) Now Prof. Münsterberg's main thesis is that while psychology is an "objectifying" science, the various *Geisteswissenschaften*, history, æsthetics, etc., are "subjectifying". Psychology, that is, describes mental processes viewed simply as processes forming a part of the world of "given" or "existing" events, and in entire abstraction from their "meaning" as conveying the purposes of active selves; history, for instance, deals with the same things, but solely in their character as expressions of intelligent purpose, as *Erlebnisse des Subjekts*, and does not describe, but "interprets" and evaluates them. Thus history remains in the main true to the original practical attitude of the self to the world; psychology, on the other hand, cannot

exist until the "real" world of purposes and interests has been replaced, for scientific purposes, by a corresponding but unreal world of events and processes which "are" but do not "mean". The logical motives of this intellectual transformation are subsequently discussed in chapter ii.

Now as to psychology, it is not my purpose to dispute what indeed seems to me in the main an admirable account of the difference between the world of actual life and the realm of scientific abstraction. But with respect to history and the other *Geisteswissenschaften*, I should like to suggest that one and all depend upon a similar "transformation," only to a different degree, and that the "subjectifying" attitude spoken of by Prof. Münsterberg really belongs to practical life alone as opposed to every kind of science. Can there, in fact, be any science which deals with mental events as *Erlebnisse des Subjekts?* Or does not such a cutting of the mental event loose from immediate feeling as all scientific study of it implies already involve the beginnings of the abstraction which becomes complete in analytic psychology? *E.g.*, Cæsar is, of course, to the historian something much less abstract than the "self" which psychology takes to pieces, but Cæsar is *not* to the historian what he *is* to Pompey or Crassus—a rival personality towards whom one must first and foremost take up a practical attitude of co-operation or opposition—but, *pace* Prof. Münsterberg, a "something given" and demanding description. To demand that the historian shall treat, *e.g.*, the crossing of the Rubicon, not as an event to be described, but as an *Erlebniss* of the subject, seems to amount to demanding that Cæsar's historian shall be himself a Cæsar. No doubt there is a sense in which no one but a Cæsar can "understand" Cæsar, but "understanding" in this sense—being really what Prof. Münsterberg maintains all "understanding" is, a re-living of the experience understood—belongs to the poet or to the historian just in so far as his work is poetic and not "scientific". The true antithesis is not so much between the sciences which "understand" and those which "describe," as between science, which can only describe with more or less concreteness, and the intuition of the poetic genius who "understands". In short, Prof. Münsterberg does not seem to have shown that the difference between the *Geisteswissenschaften* and Psychology on this point is one of fundamental method. His assumption that analysis into atoms is the one and only method of "description" may fairly be called in question. Is anatomy, then, the only possible "description" of living organisms? And if so, how shall we class Natural History?

To criticise his classification thus is not, be it remarked, to concede that history and society are mere forms of applied psychology, or that psychology is the "foundation" of all the mental sciences. Chemistry and mechanics are both, in Prof. Münsterberg's terminology, "descriptive" in their methods. This is not, however, enough to prove that chemical processes are really merely mechan-

ical. Similarly, history and psychology may both "describe" mental realities and yet the individuals who figure as units in the historian's description may be incapable of complete analysis into complexes of mental processes. Prof. Münsterberg has perhaps been led astray on this point by a failure in his metaphysics. For we find him at page 38 incidentally maintaining that the logical reconstruction of an individual object of perception out of general concepts, though complicated and difficult, is not in principle impossible. He forgets, that is, that the "individuality" of the perceived object lies precisely in that direct contact with immediate feeling which all conceptual analysis and reconstruction must begin by abolishing.

In chapter ii. we reach the author's formal exposition of his own fundamental philosophical view. The problem is to explain the logical motives which lead to the transformation of the "values" of actual experience into the "given" and "valueless" objects of abstract science, and to assign to psychology in particular its special place among the sciences which depend for their existence upon this transformation. And here, again, in the midst of much that is most suggestive and admirable, one is constantly haunted by a suspicion of Prof. Münsterberg's metaphysics. What Mr. Bradley has called the commonest of metaphysical blunders, the setting up of alternatives which are not mutually exclusive, meets us repeatedly in the course of the argument. Thus we find it tacitly assumed at the outset (p. 45) that *either* we may view mental life as a teleological unity, *or* from the standpoint of scientific psychology, but not both at once. But is it so manifest after all that all descriptive science must be "atomistic"? Would a physicist, *e.g.*, admit that only "atomistic" hypotheses are scientific in physics? And if he would not, why must the restriction be imposed on psychology? To pass on to a more important point. The fundamental antithesis between the actual and the scientific worlds with Prof. Münsterberg is that in the actual world things do not "exist," they have "values" or are "valid"; for the "objectifying" sciences they have no "values," they merely "exist". Indeed he even pushes this antithesis so far as to speak of the objects of direct experience as "not *being*, but having validity" (p. 60). Now it is clear that the starting point for this distinction is a correct and important reflexion; it is quite true the objects with which we make acquaintance in real life are not objects *merely* presented," without relation to our practical needs and impulses, and that reaction rather than description is what they demand of us. It is also true that in physics and psychology we treat the world in abstraction from this practical relation to the willing subject. But it is overstraining an antithesis when we are told that it is only for abstract science that things are existents. For practical life, no doubt, things are much more than mere existents, but "not *mere* A" and "not A" must be carefully distinguished. Prof. Münsterberg, in fact, falls into the error of treating "existence"

as the predicate of a judgment (p. 56), and lays himself open to the awkward question whether the imaginary hundred dollars of Kant have not as much "worth" or "validity" as the real hundred dollars, only that unfortunately they do not "exist".

Incidentally this antithesis between the actual and the existent involves consequences of some importance in psychology. In the first place, if all that has to do with the teleological unity of consciousness and the position taken up by the subject towards the giver is to be excluded from psychology, as forming part of the world of "values," we are committed from the outset to a psychological doctrine of the most extreme 'presentational' type, without any adequate theory of attention, or of the teleological character of perception. In the second, it is hard to see what psychology, as defined by Prof. Münsterberg, is to make of the whole realm of instinct and impulse. In the third, we may doubt if the feeling side of consciousness is likely to get much recognition. Prof. Münsterberg, as we shall see, exhibits great ingenuity in his attempts to escape from these restrictions, but his ingenuity cannot disguise the fact that he has imposed them on himself by his initial metaphysical assumption that what "exists" is not "valid," and what is "valid" is not "existent".

To the question what is the logical motive for the creation of the "objectifying" sciences Prof. Münsterberg gives the answer that it must be sought in the practical necessity of learning to anticipate the future. If we are to adjust our behaviour to our environment in advance at all, we cannot avoid asking ourselves how things will behave, assuming that we do not interfere with them, and the attempt to answer this question brings us at once face to face with the useful, though fictitious, concept of a world of things independent of the activity of a self, which merely "are there" or "are to be found" in experience. In principle this solution of the problem is no doubt correct, but it might be suggested that it scarcely allows enough importance to the instinct of intellectual curiosity which seems to exist in us. In ordinary every-day life itself, certain experiences seem to interest us simply in virtue of their own quality, apart from any further relation to our practical ends, and so far as this is the case, it might be contended that "pure experience" as well as science, though not to the same degree, presents us with at least some objects which are merely "found" or "existent". More important is the author's answer to the next question with which he deals. In the realm of pure abstract sciences what is the true basis for the distinction between physical and psychical objects? This basis is found in the ultimate difference between that which is, at least potentially, a common object to many consciousnesses (the physical), and that which from its own nature is directly an object only to one consciousness (the psychical). The physical and the psychical objects alike presuppose an ego or subject as their correlate; the peculiarity of the psychical object is that it can only be experienced by *one* such subject (p. 72).

Two points in connexion with this definition seem to call for some examination. As to the nature of the "subject" of experience presupposed by both physical and psychical science we are told that it cannot be the "actual" self of real life, nor can it be any hypothetical self conceived of as exercising an influence upon the course of consciousness; it must be a mere passive spectator of the current of psychical events, a merely logical bond of connexion (pp. 71-72). Now if this be admitted, it follows of course that scientific psychology and atomistic associationism are the same thing; but is there any good reason for the admission? Granting to the full that the "self" of psychology is not the concrete "self" of real life, but a creation of abstraction, why must it be purged in this ruthless way of all teleological unity? Because a self, however abstractly conceived, which has unity of purpose and structure, cannot be an object of "description"? By a similar process of reasoning it might be maintained that physics has no right to the idea of energy or its conservation. If you analyse a given material into its constituent parts, you will nowhere come upon its energy as one constituent, side by side with its component particles; by comparing the successive states of the material you discover the presence throughout the succession of a constant which is not an element but a form of relation of the elements. Similarly it may well be that the simplest psychological processes cannot be adequately described in terms of the elements found by analysis only; we may need to introduce into our description some permanent form of relation between the elements of which the process is composed, and this form of relation may be found to be in general of a teleological character. Psychology, in that case, may retain its character as an abstract and "descriptive" science, but its "descriptions" will not be restricted to being enumerations of atomic elements; they will, like the descriptions of every other science, involve the characteristic forms of relation belonging to the processes described. Prof. Münsterberg's determination that the descriptions of psychology shall include nothing like the teleological unity of attention as one of their terms seems to lead him into a serious paradox. He frequently insists that the "consciousness" studied by psychology, unlike the selves of real life, has neither knowledge nor will. Its states are merely there; it *has* them, and they succeed each other according to certain mechanical laws, but it knows no object and wills no result by means of them. What, in real life, we should call the "meaning" of a thought becomes for the psychologist merely the fact that state A is mechanically effective in setting up state B by association. Undoubtedly if the atomistic assumptions already made are correct, the consequence is inevitable, and Prof. Münsterberg is highly to be commended for the courage and candour with which he has drawn it. But what remains for psychology to do, when once it has found its elements? Can we give any intelligible account

of any typical perceptual or volitional process in terms of these states which mean nothing and exist for a subject with none but a purely logical unity? Or to take a single test case; if psychology translates "meaning" into a sequence of associated ideas, must we not say that her translation is not merely inadequate but radically false and therefore useless?

Less paradoxical, though still not convincing, is the contention that the psychical object from its very nature, has no causal connexion with other psychical objects (p. 88). The reasoning by which this result is reached appears to turn on an unconscious amphibology. The psychical is defined as that which can only be experienced by *one subject;* causal relation is then rightly declared to be an identity between the contents of a plurality of experiences, and it is inferred that the psychical, because only experienced by one "*subject-act*," cannot exhibit such an identity in diversity. I trust I do not misrepresent the author's meaning, but I confess myself unable to follow his argument. It appears, however, that he is partly influenced by the conception of causality as essentially something to be expressed in the form of a kinematical equation. I would suggest, on this point, that it is of the essence of causality *not* to be expressible as a relation between quantities. Whenever the advance of mathematical physics makes it possible to substitute for a relation between the qualitatively diverse an equation between quantitative aspects of a continuous process, the distinction between cause and effect, and with it the category of causality, seems to lose its applicability.

I have dealt with some of the fundamental questions of principle raised by Prof. Münsterberg's first two chapters at such length that I must pass very hurriedly over the three following chapters which expound the views as to the relation of psychology to the historical and the normative sciences and to practical life already familiar to English readers of the author's *Psychology and Life.* These views will in the main be most acceptable to all who are convinced of the hypothetical and abstract character of psychological science and the consequent impossibility of its taking the place of direct experience and concrete knowledge of men. It is specially gratifying to find a psychologist of Prof. Münsterberg's eminence protesting so vigorously against the current delusion that the psychological text-book and laboratory will give the teacher the clue to the inmost workings of his pupil's mind. And how timely is the warning to the teacher who proposes to treat his pupils as "subjects" for experimentation, that at best the loss may be greater than the gain! "To the educator the scholar is an individual subject, not a bundle of psychical elements. Tact and sympathy, interest and patience, in which the immediate relation of will to will reveals itself are more valuable for education than the cleverest calculations based on psychological constructions" (p. 197).

I cannot however omit to call attention to the strange paradoxes

of Prof. Münsterberg's account of history as affording an illustration of the lengths to which he is forced to go in consequence of hasty and inadequate metaphysics. History (p. 125) deals with realities which are timeless, and (pp. 117, 129) have no causal connexions. As how? Marry, thus. History deals with intelligent purposes and their relations to one another; but acts of will are timeless, and the relation of the various purposes which compose society to one another is teleological and therefore not mechanical. Now with the alleged timelessness of acts of will we shall have to deal later on; yet even now it is surely manifest that, whether timeless or not in their own nature, human purposes only constitute the material of history in so far as they are gradually realised in the process of events. A divine purpose realised "from the foundations of the world" would have no history. Or, to take the author's own illustration and turn it against himself, the German Empire is a teleological system of purposes, but a History of the Empire must do much more than analyse the system into its parts; it must exhibit the successive stages by which it has been created. What does not do this is no History. In fact we have the old metaphysical error over again. What is not *mere* temporal succession is taken to be not successive at all. So with the exclusion of causal explanations from history. If the relation between wills is not adequately expressed by the category of causal determination it is taken to be not causal at all. We are offered our choice, "*either* causal explanation or teleological," and no account is taken of the possibility that the alternatives may not be exclusive, but that both causality and teleology may be applications though at different levels of a single principle. So long as this possibility remains undisposed of, it is a manifest *petitio principii* to assume that a given science must be confined to the employment of either system of categories.

With the sixth chapter we enter on the second main division of the book, the enumeration and classification of the "psychical objects". In chapters vi.-ix. Prof. Münsterberg deals successively with the relation of the psychical to consciousness, to space and time, the dimensions of the "psychical manifold," and the "description of psychical objects". From the methodological position previously adopted it follows at once that for him the "self" of psychology must be purely passive, a mere name for the common logical character of psychical objects as existing only for "one" consciousness. All influence of the "subject" upon the order of its states must be rigidly excluded, and all psychical processes reduced to changes in the objects or contents of this qualityless consciousness. The "synthesis of the manifold" is never a function of the psychological subject (p. 209); "consciousness can have no other function than to become conscious of its contents, all active forces must, from the standpoint of psychology, rest in the content and not in the subject". Hence a scientific psychology must deal with all problems of attention as "changes in

the object" (p. 214), in other words, must be atomistic and in general character associationist. I have already tried to show the invalidity of the methodological and metaphysical foundations of this theory, and need only add that the inference from the analogy of physical science (pp. 204-205) seems to rest upon the questionable assumption that the "psychical object," like the objects of physics, is the sum of its parts and nothing more.

From the psychologist's point of view we may fairly ask whether Prof. Münsterberg's program is really capable of execution. Can we, for instance, find room within the limits prescribed us for so much as a passable substitute for the selective attention which characterises all actual mental life? Or, to put the question of principle in its most general form, can what is "in" the mind be satisfactorily identified with what is "before" it? In England, at any rate, the marked tendency of contemporary psychological thought seems to give a decided negative to the suggestion. The same conclusion seems forced upon us by consideration of Prof. Münsterberg's own thorough-going and consistent statement of the consequences of his doctrine. The "subject" of psychology, being a purely logical fiction, has neither unity, permanence, nor multiplicity (p. 210 ff.). The self of real life has a teleological unity, is one, because its system of aims and purposes is one. The "contents" of the consciousness studied by the psychologist have a mechanical unity, being rigidly connected in a single causal system; but the "subject" for which they are "contents" has neither the one nor the other. Incidentally the author seems here to bear witness against himself; the unity of aim which he rightly regards as the foundation of real personal identity is not necessarily or even normally always present to consciousness; indeed it may require the minutest scrutiny of the biographer or historian to make its reality apparent. My conduct may be most true to my inmost ideals where I least suspect it. Thus for real life—and, therefore, why not for psychology?—what is "before" the mind by no means exhausts what is "in" it.

Similar reflexions are suggested by the searching criticism of the concept of "unconscious" states. The unconscious, as the author well says, must not be used as a "collective explanation of unsolved biological problems," but may only be introduced into psychology so far as specially psychological facts appear to warrant. Even here, however, an unfortunate metaphysical afterthought is not absent from the immediately following proposition, "the physical must be explained in physical terms". For as the context shows, the author's meaning is "purposive physiological processes must be explained in terms of mechanism," a proposition by no means of axiomatic evidence. Among psychological facts Prof. Münsterberg finds, after an admirable examination of current confusions on this head, two main classes which suggest the possible existence of unconscious psychical states: (*a*) the facts of oblivescence and subsequent recollection; (*b*) the processes of apperception. As to the

first class it is easily shown that the tendency to treat the "idea" which has vanished from consciousness as still existing "below the threshold" is partly at least due to unconscious materialism; we have no right to transfer the doctrine of the conservation of mass to psychology, and until the general question of the nature of the causal connexion between mental states has been answered, it must be left an open question whether the representative of an idea no longer in consciousness is an unconscious "psychical disposition" or a purely physiological state. Again, in the various forms of apperception, where subsequent attention and analysis result in the detection of the previously unobserved, as when the partial-tones of a musical instrument are detected with the aid of a resonator, we have no genuine "unconscious"; in other cases, we have no right to identify the unconscious factors which determine the course of experience with psychical dispositions rather than physiological states until we have discussed the whole problem of psycho-physical connexion. Thus there remains no satisfactory ground for assuming the existence of unconscious mental states, and psychology is entirely the theory of "the contents of consciousness" (p. 230). Brilliant as all this is, it leaves the question unanswered whether the forward-looking selective character of all perceptual activity does not constitute an "unconscious," if the "conscious" is to be reduced, as by Prof. Münsterberg, to a series of atomic "contents".

Prof. Münsterberg's treatment of the relation of the psychical to space and time is one of the most striking pieces of analysis in the book, and will be, no doubt, found most suggestive even by those who cannot entirely subscribe to his results. Contrary to the popular opinion in psychology he holds that the psychical is non-temporal as well as non-spatial. The activity of the real subject of concrete life is "out of time," because it is, so to say, the fixed point with reference to which all that happens is located as past, present or future; events are past, present or future, according to their relation to the direction of the subject's activity; to ask whether that activity itself is past, present or future, is unmeaning. Again in the psychologist's world of abstractions, the "states of consciousness" are themselves non-temporal. Just as, though A is to the right or left of B, there is no sense in asking whether my percept of A is right or left of my percept of B, so there is no sense in asking whether the thought of A is before or after the thought of B. In the only sense in which thoughts have position in time they have also position in space, *viz.*, in so far as they accompany physiological processes which are both spatial and temporal. In short, the objects which are in time and space are exclusively physical. Subtle as this argument for the "eternal self" is, it appears to rest throughout on questionable metaphysics. This is incidentally revealed by the author's own language when he is driven to speak of "tendencies" of the self which are not in time, and of a "Wechsel der Vorstellungen"

which is not a succession, and even more strikingly when he tells us of physiological processes (themselves, be it remembered, admittedly in time), which "accompany" the timeless ideas. For what can this companionship mean if it does not mean simultaneity? The positive arguments for the timelessness of mental life do not appear very conclusive. Because it is senseless to say that the thought of A is to the right or left of the thought of B, does it follow that I cannot intelligibly say, apart from all reference to cerebral processes, "I have been thinking about Plato and am now thinking of Prof. Münsterberg"? Rather than pronounce such a judgment unmeaning I would, if the Professor's dilemma seemed a sound one, admit that mental states are extended in space as well as in time. But the dilemma itself is probably fallacious. Experience will teach us all that there is this marked difference between the relation of the psychical to space and to time; except in the sense of cerebral localisation, no one has ever dreamed of there being a spatial connexion between two thoughts about non-spatial objects, while every one knows at once what we mean by saying that of two thoughts about non-temporal objects one came before or after the other.

If the psychical object has neither spatial nor temporal extension, it must be entirely unquantitative and incapable of measurement, and all that is commonly called "psychical measurement" must be misnamed. This conclusion is drawn in the following chapter (chap. viii.), on "The Psychical Manifold," a chapter which is a masterpiece of acute and thorough analysis. The psychical and the physical worlds, when once all temporal relations have been excluded from the former, become respectively a purely qualitative and a purely quantitative continuum; quantity being excluded from the realm of psychology by the same logical necessity which banishes all differences of quality from the sphere of mathematical physics. It now becomes manifest that the psychical as such cannot be measured; there is no sense in speaking of one quality or one intensity as a multiple of another, and where such language is used, we may presume an inaccurate transfer to the psychical quality of predicates properly belonging to the corresponding physical stimulus. This holds good, as the author excellently observes, of the "extensive" sensations as much as of others. "The form-sensation of a millimetre is not contained a thousand times nor any other number of times in the form-sensation excited by a metre rod. To assert that it is, is to confuse the presented extensions, directions and forms with the parts of the single space of our mathematical postulates" (p. 264). The fundamental character of the psychical, indeed, is incompatible with the conditions on which measurement depends. For measurement is only possible where you have a system of constant units, and for psychical objects, states which exist once and then disappear without recurrence, there can be no such system (p. 269). What then is really effected in our so-called psychological measurements?

(p. 271 ff.). Prof. Münsterberg distinguishes sharply between the case of measurements by the method of "just-perceptible differences" and by the method of "overperceptible differences". The equality of two just-perceptible differences really denotes the mere fact that in both cases the further diminution of the stimulus would abolish all psychical effects; when "overperceptible differences" are declared equal we have a genuine comparison of psychical states, but not a quantitative one; the qualitative differences between the two pairs of sensations are what we really pronounce alike.

All this is most admirable, nor does it lose its force if we venture to differ from the author about the temporal character of mental states. Mere duration as such, though clearly in some sense quantitative, will yield by itself no system of constant and transferable units of measurement; whether mental states have duration or not, all that Prof. Münsterberg says about the impossibility of devising units of measurement for objects which never recur seems to retain all its force, and his judgment on the metaphysical errors of a mathematical psychology remains substantially just. "The increased acuteness of analysis which emanated from Herbart, and the adoption of experimental methods which begins with Fechner, were introduced by an error of principle which we must surrender" (p. 280).

What then are the dimensions of the qualitative manifold which forms the object of psychological analysis? Prof. Münsterberg rightly holds that the question must be treated as a purely psychological one, without reference to the various differences in the physical antecedents of mental states. Hence he rejects some classifications which are current in contemporary psychology, notably the favourite arrangement of colour and sound sensations according to the form, amplitude and complexity of their physical causes. His own classification is a somewhat elaborate one; "the qualitative differences" of mental states of all kinds are subdivided into differences of quality in their contents, their form (spatial and temporal) and their value (differences in pleasure-pain worth, attention worth, liveliness). The content-qualities and form-qualities each constitute a manifold of three dimensions, every group of sensations being capable of arrangement according to degree of likeness in kind, intensity, and "independence". (Independence = the degree to which a given sensation retains its distinct character when combined with others.) The "value-qualities" correspond to what in actual life would be called the varying interests and attitudes of the subject, but for the "objectifying" science of psychology they must be translated into functions of the psychical object (pp. 293-294). The subtlety with which this analysis is worked out is extraordinary, but one may perhaps question the possibility of such a reduction of variations in attention and pleasure-pain worth to characteristics of an object which is simply passively "found there". For the hypo-

thetical subject, who merely "has" mental states which mean nothing, there ought to be no "value-qualities" at all; while, if once we may give unity of aim and purpose to the consciousness we are studying in psychology, the grounds for the forced treatment of values as qualities of the object disappear. Prof. Münsterberg's psychology on this point seems sounder than his deductions from *Erkentnisstheorie*.

With chapter ix. we enter on a detailed theory of the nature and conditions of psychological description which ends the second part of the book. Psychological description, from the nature of the case, must always be indirect. I cannot exhibit the contents of my mental state for my neighbour's inspection; I can at best describe with accuracy the physical conditions under which it arises, or the physical movements which follow on it. The former method is naturally adopted for the description of perceptive, the latter for the description of volitional processes. Only the former, however, is capable of receiving exact scientific precision. The one method of scientifically exact description in psychology is that which we follow in the analysis of perception, the accurate determination of the correspondence between variations in the physical constitution of the perceived object and variations in the different qualities of the percept. For it is only in perception that every variation in the psychical state "stands for" or "means" a variation in a physical object with which the psychical state is in a "noetic connexion". Hence, if we define a "sensation" as the simplest element in a perception which still retains noetic relation to the physical world, the ideal of scientific psychology will be—so far as its object is the communication of its results—the analysis of the entire content of consciousness into complexes of sensations (p. 309). It is not assumed here (*a*) that sensations themselves are incapable of further analysis, but only that their elements if they have any, are no longer in any "noetic relation" to the physical world, nor yet (*b*) that feeling and will are presentations, but that the *elements* of presentation, feeling and will are identical (p. 310).

In his treatment of the isolated presentation Prof. Münsterberg seems in the main successful. He has little trouble in showing that, though the presentation is never the *sum* of its elements, it is so related to them that for the logical purposes of psychological analysis they may be substituted for it, and his refutation of the view that the temporal-spatial character of a presentation is not itself a quality of the presentation, but a form of combination of its elements, which would be destroyed if the presentation were analysed into its elements is a masterpiece of analysis (pp. 320-330). The real difficulties only begin when we reach the attempt to show that non-presentations are only capable of scientific description if they are analysable into sensations (p. 331). There is, it must be remembered, no ground for this reduction of all psychical processes to sensation-complexes

except the methodological assumption already discussed, that mechanical atomism is the one ideal of descriptive science. Even if we admit this and, with the author, definitely regard physiology and biology as less "scientific" than mathematical physics, we should still have to consider how far mechanical atomism in psychology is compatible with the writer's other fundamental assumption that psychical objects are purely non-quantitative. We certainly seem forced upon a dilemma; either psychology is a purely mechanical and atomistic science, and in that case its objects must in the last resort have purely quantitative differences, or its objects differ in their qualities, and it is therefore not atomistic. To the present writer at least Prof. Münsterberg's two principal premisses appear to involve a radical inconsistency.

The details of the reasoning by which *Zustände* as well as *Vorstellungen* are reduced to complexes of sensation-elements are full of interest, but contain nothing which helps to remove this difficulty of principle. Everything really turns on the successful manipulation of feeling and emotion. The convincing proof (p. 351 ff.) that voluntary action needs no "feelings of innervation" for its description in itself brings us no nearer to the author's desired conclusion. When volitional action has been analysed into action characterised by anticipation of the result *plus* a feeling of our own activity, the question still remains whether this last-named factor is itself a sensation-complex or not. Now in order to answer this question as to feeling in his own way, Prof. Münsterberg is driven to the position that feeling itself, for psychology, must be simply a complex of organic, kinæsthetic and peripheral sensations. The aspect of a feeling which corresponds to an attitude of the self towards its perceptions, appetition or aversion, is a factor always present in actual experience, but not an object for psychological science (p. 345). Similarly, in dealing with instinctive and impulsive action, psychology as distinguished from biology or psychophysics is to take no account of the quasi-teleological character of instinct; the process is to be reduced to a complicated system of associations without significance, purposive "for the organism" but not for the subject. Thus we get a hint of the paradoxical view that biology may use teleological categories while psychology must do without them (pp. 359-360).

The account of psychological description closes with a remarkable anticipatory sketch of a possible "psychical atomistic" of the future, which may conceivably analyse sensations themselves still further into complexes of atomic elements each absolutely unique in quality, and comparable with others only in respect of vivacity and degree of "independence," which two differences are again conceivably to be reduced to variations in vivacity alone. Thus Prof. Münsterberg seems to promise as an achievement of future psychology a reconstruction of the Herbartian "Mechanik" previously declared to be founded on a delusion. His attempt to show that similarity between one "simple" sensation and another

might be a result of a partial identity of component atoms, while "blending" may be due to relations of vivacity and consequent mutual *Hemmungen* of the atoms, while most ingenious, labours under the double difficulty of ascribing "parts" to the *ex hypothesi* non-quantitative and postulating processes in the non-temporal. The difficulty is not removed by the comparison with the *plus* and *minus* signs of the root of a quadratic. For it is precisely the possibility of a *geometrical* or *kinetic* interpretation, *i.e.*, an interpretation in terms of space and time, that makes the double sign intelligible.

With the third division of the book we come to the problems of explanation. All explanation rests upon the establishment of connexions; what is the special nature of the connexion between psychical objects? To begin with, it is not *causal*. There is no causal connexion between one "state" or "percept" and another, for two reasons; (1) because causal relation can only subsist between *permanent* objects, and (2) because no "causal equations are possible between non-quantitative states" (p. 385). For the same reason there can be no causal relation between a physical and a psychical state. The second of the two alleged reasons has already been criticised; the first also appears to rest on a dubious assumption. That causal and all other relations are only possible within a system which is itself unchangeable may be true, but is not to the point. The real question is whether, *e.g.*, in the physical world causal relation loses all its meaning if the principle of the conservation of mass is not absolutely true, a question which ought scarcely to be answered in the affirmative without examination, seeing how persistently modern theories of "ether" attempt to get behind the concept of "mass" itself. Where you can specify the conditions under which B succeeds A, you have a *prima facie* case for asserting causal relation, whether A itself is "persistent" or not. Psychical dispositions would appear to supply as good a background for psychical as persistent forms of motion in an ethereal medium for physical causality.

Such a line of thought would clearly lead us to the concept of the "soul" as an empirical—not of course a metaphysical—substance of which presentations are passing states. Prof. Münsterberg has, of course, to reject this idea (pp. 390-392), as he has already reduced the universe of psychical objects to a plurality of detached states and nothing more, and has also denied them all temporal character. Thus he finally reaches the following result: "the soul," the permanent system of aims and purposes, is a concept which belongs to actual life and the normative sciences; it corresponds to an identity which is real but not causal or temporal; the relation of a plurality of such personalities again is not temporal or causal but is one of greater or less sameness of purpose. For metaphysics it is a further problem to show how such a plurality of wills is ultimately held together in the single teleological system of the Absolute (the Absolute being conceived as a universal will

which wills the imperatives of ethics). For psychology such teleological unities have no meaning; we cannot even speak of will or personality as self-determining, for causal determination and will belong to realms which have nothing in common, and identity of character and purpose have nothing to do with the unity of temporal processes. Identity of purpose is identity of values and all values "lie in the timeless". The soul thus disappears from psychology and we have to examine the problem of causal connexion from the physical side (pp. 395-401). It would be out of place to criticise the Fichtean idealism of all this in detail, but the difficulty of principle is surely manifest. Our systems of aims and values may no doubt rest in the end upon our relation to a timeless reality, but purposes which have themselves no temporal character at all seem unimaginable, and it is hard to see how the categories of teleology can express the final truth about the timeless Absolute. The problem of the relation of the Absolute to temporal appearance cannot be solved by the mutilation of the facts. Where "not yet" has no meaning, can teleology and "value" have any meaning either?

Prof. Münsterberg then advocates a doctrine of rigid parallelism. Psychical states are only connected as concomitants of a system of mechanical brain-processes. But, as he candidly avows, this theory is not in the least dictated by empirical facts; the "facts" will fit a theory of interaction or even of occasionalism equally well. He is also admirably clear on the important point that the "conservation of energy" affords no valid reason for denying interaction. Parallelism is with him a purely *a priori* theory resting upon the assumed necessity of rigid mechanism as the only scientific view of nature. If there is interaction, we must abandon our rigidly mechanical conception of the physical world. But, I would ask, what then? Precisely in the same spirit Aristotle objected to methods of approximation in geometry, on the ground that to admit them would introduce inconsistency into the ideas and methods of mathematics. So undoubtedly it did, but what progress could geometry have made without tolerating the inconsistency? If the mechanical view of nature rests throughout on abstraction, as Prof. Münsterberg is emphatic in maintaining, why should it not be the case that its application in psychology leads to sensible errors, though in some other branches of science only to insensible ones? If this were the case, as some of us believe it is, surely we should be justified in preferring to keep our science in touch with the real facts of mental life, even at the cost of some want of rigid method, rather than by rigid adherence to an *a priori* theory of the methods and limits of the science to deprive it of all intelligible relation to the real. Prof. Münsterberg's programme for psychology seems to involve the disappearance of all recognisable resemblance between the psychic states of psychology and any mental life of which we know. He tends at times to forget that the abstract concepts of science lose all their value when cut

entirely loose from their foundation in the actual world. The fundamental logical crux of the parallelistic theories, the assertion that two series of states correspond point to point and are yet mutually independent, he makes no attempt to remove, unless the mere application of the epithet *rein logisch* can be regarded as such an attempt. Interesting as his discussion of parallelistic views is in many respects, its main interest is the striking proof it affords that the doctrine of parallelism rests on nothing more than a dislike to admit the possibility that the categories of mechanism are not equally applicable for description and explanation everywhere. For my own part, believing with Prof. Münsterberg that reality is not mechanical, I should be much surprised if they were.

It follows, as a logical consequence of the author's principles, that all forms of "apperceptionist" psychology are to be condemned as radically unscientific (pp. 436-457). Apperceptionism in psychology, like vitalism in biology, means the application of teleological categories to a causal series, and if causality and teleology are really reciprocally exclusive, the one belonging only to the "subjective" and the other to the "objective" sciences, such an application must lead to absurd results. That teleology and causality do exclude one another we have already seen to be one of Prof. Münsterberg's favourite metaphysical theories; it were to be wished that it had been supported by a more thorough investigation into the meaning both of "cause" and of "end". The question being thus decided *a priori* on metaphysical grounds, the author naturally gains an easy victory over his opponents, who, by the way, are assumed to make their case worse by admitting rigid parallelism for the case of sensations while rejecting it for the "higher" processes (p. 452). If the "apperceptionist" takes this ground he certainly deserves to lose his case; but I should conjecture that the serious antagonists of parallelism will probably be inclined to abstain from the initial concession. They will prefer to maintain, with Prof. Ward, that in sensation we have a *prima facie* case of interaction, and will invite Prof. Münsterberg to make his proof of the opposite more cogent precisely in this simplest case. Meanwhile they might fairly contend that the elimination of all teleological concepts amounts to much more than "transformation" of real mental life into a form suitable for scientific analysis; it is much more like a new creation of a fanciful world of non-human automata. The "apperceptionist" view may no doubt often suffer perversion, but in its essence it simply amounts to the theory that there are processes the stages of which cannot be conceived as coherent wholes except with reference to their ends, and that the processes of mental life are of them. There is nothing in Prof. Münsterberg's book which disproves the rationality of such a theory, or proves the necessity of constructing our psychology without its help.

The author next turns to the biological aspect of the problem.

Can human action in all its complexity be regarded as the working of a peculiarly complicated physical mechanism, or must biology avail itself of non-physical terms? His reply is that, granting the possibility of developing the advantageous and suppressing the disadvantageous reaction by natural selection, the evolution of the human organism and the social organisation is explicable on purely physical lines as a process of increasing complication of the apparatus for reaction, without the introduction of a psychical factor. In reaching this result he avails himself very largely of the latest researches into the development of instinct with happy effect, but there still remain certain fundamental problems which his treatment does not appear to touch. *E.g.* there is the question how the distribution of variations—the existence of which he is content to assume—is itself to be accounted for, and the possibly even more important question whether increasing complexity of preformed reactions is really the line which evolution has consistently followed throughout its course. Plasticity of instinct *plus* increasing power to form new appropriate responses rather than complication of "instinctive" preformation would seem to be what in the main distinguishes the higher animals. The interesting character of the "instinctive" performances of the ant and bee should not blind us to the possibility that these species represent a side development rather than the main line of evolutionary progress. Such investigations as Bethe's, even if we accept their results unreservedly, contain no answer to the question whether a psychical factor is involved in the evolution, *e.g.*, of the vertebrates. Again the author does nothing to remove the inherent difficulty of understanding how consciousness comes to develop at all if mere increase in complexity of the physical machinery of itself answers all purposes. With him, as with all consistent supporters of parallelism, consciousness really does nothing at all for its possessor, and its presence in the organism is a sort of standing biological miracle. The difficulty is not solved when we are told that what runs parallel to physical processes is not our real acts, but the unreal psychical states of psychology (p. 461). The severance between truth and reality in Prof. Münsterberg's philosophical scheme has been made so complete that there seems to be no bridge of connexion left between them. If practically every predicate of psychical states is absent from real mental life and *vice versa*, if psychology in short deals with *mere* μὴ ὄντα one no longer sees what it is good for. To have any logical worth it must treat of objects which, as Plato would say, are at least ὄντα πῃ.

With his last two chapters Prof. Münsterberg comes to the construction of his own special psycho-physical theory. That theory is bound by his metaphysical presuppositions to be in spirit associationist, but it must not be off-hand identified with the current form of the association doctrine. Current associationism is in chapter xiv. pronounced to be right in its rejection of the purely psychical and teleological factor of "apperceptionism," but to have failed

hitherto to account for those facts of intelligent choice and selective attention upon which "apperceptionism" lays stress (p. 497). On the physiological side, too, the associationists' favourite principle of the formation of "paths of least resistance" is far too crude an explanation of the wealth of inner relations between the various cerebral tracts (p. 511). It still leaves us without any real answer to the question why, at a given moment, just this one out of all the possible associations takes place, while all the others remain ineffective (p. 519), and none of the current hypotheses as to the nature of cerebral processes avails to fill the gap. The psycho-physicist has still to ask, After all the hypotheses as to the machinery of nerve action have been exhausted, "who decides in the particular case which path is to be blocked and which open?" (p. 521). Prof. Münsterberg's answer is given by what he calls his "action theory". Retaining the associationist view that the quality of a sensation depends on the specific energy of the conducting path, and its intensity on the strength of the centripetal excitation he would add that its "vivacity" is a function of the strength of the consequent centrifugal excitation. *I.e.*, the sensory excitation in itself is purely physiological and only acquires a psychical side as it passes into motor discharge (p. 531). Thus, his theory, though in a sense a synthesis of the principles of associationism with the facts of apperception, remains in spirit essentially associational. The theory is put forward in the first instance on logical grounds, and not as a result of empirical observation, but finds its empirical *point d'appui* in the fact that every motor centre has an antagonistic centre from which its activity can be obstructed (p. 533 f.). The subcortical motor centres thus form an "anatomically pre-established connexion, which conjoins one small cell-colony with one and only one other" (p. 536). Upon the momentary state of this subcortical motor machinery and its reaction upon the cortical processes depends the "vivacity" (*i.e.*, the attention-value) of the various sensory excitations (p. 537), upon the spatial position of the path of discharge, their feeling-tone and other worth qualities (pp. 545-549). More important than the hypothetical physiology here suggested is the attempt (p. 549 ff.) to explain attention and suggestion in terms of the theory. The explanation starts from the perhaps questionable metaphysical doctrine much affected by the author, that all contradictory opposition is opposition of antagonistic motor processes. An impression is attended to, because its motor process inhibits possible competitors (p. 550). Similarly with abstraction and judgment; an "abstract" idea is for psycho-physics one which is connected with the motor reaction which belongs in common to a whole group of objects (p. 552), a judgment differs from a concept psycho-physically in virtue of the new motor adaptation for future action which accompanies affirmation or denial (*ib.*). Finally similarity is explained in the same way. Instead of saying similar presentations arouse similar reactions, we must maintain that "objects are

similar *if* the reactions excited are similar" (p. 553). If space permitted, it would, I think, be legitimate to challenge the general assumption as to the nature of opposition on which these conclusions depend. It is more to the point, perhaps, to ask whether, when all is said, the theory of action does more than throw light on the nervous mechanism of the attentive process. That the author is right in insisting that the process is sensory-motor and not purely sensorial can hardly be doubted, but we still have to ask of his theory, as he asked of associationism, Who decides *which* motor innervation shall at a given moment inhibit its antagonist? How is the selective character of the process, with its power of originating new adaptations, to be understood without either introducing a psychical selecting factor or permitting in biology the teleological concepts which have been excluded from psychology?

The present article may perhaps appear to the reader to be too exclusively polemical. It must be admitted that it is in effect a sustained polemic against Prof. Münsterberg's two cardinal doctrines of the incompatibility of causal and teleological categories, and of the non-temporal character of the psychical. I have been compelled, for the purpose of dealing more fully with these fundamental principles, to pass over much that is of the greatest psychological interest in his book, and to dwell more upon what seem to me the defects of his metaphysics than with the main purpose of his polemic against "naturalism," with which I find myself in hearty accord. I trust this polemical attitude which has been in fact necessitated by the polemical character of the book itself will not be taken for a want of appreciation of its remarkable merits. There is perhaps no work on psychology of recent years which raises so many important questions of ultimate principle, discusses them in a manner so acute and original, or compels the reader so persistently, if he dissents from the author's results, to give himself no peace till he knows why he dissents. If the value of a book is to be measured by the degree to which it stimulates its reader to think for himself, Prof. Münsterberg has written a book that is invaluable. Certainly no one who desires to think for himself about the relation of psychology to philosophical truth can afford to neglect it or to hurry through it carelessly.

A. E. Taylor.

A Study of the Ethics of Spinoza. By Harold H. Joachim. Oxford: Clarendon Press, 1901. 8vo, pp. xiv. and 316.

Mr. Harold Joachim is to be congratulated, in the first place, on having produced that which is too rare in academic literature of any kind, a sound and genuine commentary. This book has nothing to do with the tribe of abridgments and manuals. It assumes that the reader can turn to the text of Spinoza at any

moment, and that, if not already familiar with it, he is at any rate studying it concurrently with the comment. It assumes, also, that the primary object is to understand what the author did say, not to frame conjectural hypotheses of what he might or ought to have said. Lawyers are trained in this fundamental rule of interpretation; it has been too much neglected among philosophers. Not that Mr. Joachim fails to have a point of view of his own, or conceals it. To say that he has one is only to say that he has produced a coherent commentary and not a series of detached scholia. The true commentator must bring his own light with him. At this day my lights, such as they are, seem to me to have become a good deal more like Mr. Joachim's since I had my own say twenty years ago. However that may be, the more light can be thrown on Spinoza from the more quarters the better. I shall premise, to save tedious repetition, that all statements of doctrine not qualified by express words or obvious context are meant to apply to Spinoza's doctrine as I conceive it, and not necessarily to my own individual opinions.

On the fundamental definitions I find some differences, but I think in expression more than intention. Mr. Joachim's clear pronouncements that reality not only can be known, but '*is* what is known or knowable,' and that God is the fulness of reality, not an abstract 'being as such,' could not be improved upon. I do not understand, however, why it need be said (p. 37) that God is defined as one Substance amongst others. The phrase is really explained by the context, but it might puzzle a novice. It means only that Spinoza cannot tell us everything at once. The senses in which 'Substance' and 'God' are used are matter of definition; and Spinoza was too good a draftsman to imitate the modern statutes that smuggle whole propositions of law into interpretation clauses. It is matter of subsequent proof that there can be no other Substance than God; in other words, that both definitions correspond to reality, and to one and the same reality.

The statement that Thought is coextensive with all the other Attributes (p. 72) is in my opinion not only correct but fundamental. It leads to the conclusion, already descried by one acute critic in Spinoza's own time, that the system is implicitly a form of idealism. Why Spinoza did not or could not make it explicitly so is a question one would like to see more fully handled.

At page 89 it might have been more simply put that Substance, as such, is indivisible. The reader is supposed to be capable of following philosophical language; and, where elementary explanation is out of place, the fewest apt words are the best. I am not sure that it is strictly correct to call an Attribute a whole of parts: for thus one might seem to say that the Attribute is a sum of parts and nothing else, and certainly this is not so. For, though the parts are real, their reality can be duly perceived only *sub specie æternitatis*, that is, in connexion with the whole. The

part is a part only because and in so far as it is conceived as *in alio*, and therefore we can never make out the whole by summing up the parts. Neither can we derive or deduce the finite world from God, which Mr. Joachim seems to assume (p. 118) that Spinoza professes to do. Only the infinite intellect of God has the material for that. Not that 'deduce' or 'derive' would be the right word in any case, though Spinoza is driven to speak of mediation in a logical sense when he is constructing the 'infinite modes'. God is the necessary and sufficient reason or rational justification of the finite world, but we cannot find any short cut that way to detailed scientific explanation. 'Calculation'—or scientific explanation—'is there where there is *another*,' that is, it is versed in finite relations, as Jalálu' ddín Rúmí says in one of his more abstruse couplets: 'there is no calculation in the region beyond that category'.

Hence, again, the world as perceived in time and space is not illusory except by our own error, and in relation to our own erroneous inferences. 'If there seem to be a brim, it is the fault of the cup.' There is no illusion in our consciousness in the first instance. As Mr. Joachim himself says, furnishing the correction to some other expressions which seem unguarded (p. 165): 'So far as the ideas of imagination go (in Spinoza's sense of ordinary impressions under the forms of time and space), they are true. If we take them as what they really are, if we do not attempt to find more in their revelations than they really contain, we are not deceived.' The illusion is not in supposing our perceptions real, but in supposing them to exhaust reality or to have independent reality. To use the venerable Indian example, it makes no difference to a rope in the path if we take the rope for a snake. Obviously the natural unreflecting man is often mistaken. But does he dwell in constant illusion? I doubt it. The reign of illusion comes with materialism, when the first stage of crude reflexion seeks to justify itself.

As to the psychology of the Ethics, Mr. Joachim, like all serious students, has found difficulties in ii., 8 (see p. 223). I would suggest that these difficulties may be partly removed if we consider the proposition as mainly negative, and intended to lead up to the positive proposition (ii., 9) that every finite existence has its place in a series of finite conditions: a proposition absolutely necessary for the development of the system. It strikes me that some of Mr. Joachim's points against the dialectic of the Ethics, as regards the place of finite causality in the universe, are equally valid against every form of determinism; but it would not be appropriate to pursue this. The explanation of *conatus*, the self-preserving 'effort'—which also has puzzled many students—appears to me too purely logical. Spinoza, writing *more geometrico*, uses the language not only of geometry and pure mathematics, but of mathematical physics as Descartes had left them. We cannot free his *conatus* from misleading associations till we have brought

it into line with such terms as *vis inertiæ*. But I have nothing new to say on this head. On the still harder puzzle of *idea ideæ* I do not think Mr. Joachim and I really differ much. He says (p. 237, *a*): 'Spinoza's use of the term *idea* is ambiguous, not because it means for him both soul and thought of the body, but because it means both "reflective thought" and "feeling"'. I can accept this with no greater variation than reading 'not *only* because,' etc.

I will allow myself one more remark in the nature of a personal explanation. It was never my intention to deny (p. 298) that all modes, *i.e.*, finite things, are in one sense eternal, 'in so far as they are conceived in their necessary dependence on God,' which correctly expresses Spinoza's *sub specie æternitatis*. Nor do I understand how any careful reader of the *Ethics* could deny it. But this general property of Modes is consistent with the human mind being capable of eternity in a more eminent sense, namely, by its power of reflective consciousness, which may become a clear and adequate consciousness of union with God; and I can hardly think that Mr. Joachim, in turn, means to deny this.

These notes are brief, but those who are already acquainted with Spinoza will not need anything longer; and it seems only fitting to give Mr. Joachim the same honour that he gives to Spinoza, that of assuming that the reader who is seriously interested at all will have the book before him, and will not expect the comment to be clear without the text. Brief as I have been, I have not thought it necessary to avoid minute points. Whoever walks with Spinoza must be content to walk *inter apices philosophiæ;* and in work so thorough as Mr. Joachim's nothing is too small to count.

F. Pollock.

The Works of George Berkeley. With Prefaces, etc., by Alexander Campbell Fraser, Hon. D.C.L. Oxford, Hon. LL.D. Glasgow and Edinburgh, Emeritus Professor of Logic and Metaphysics in the University of Edinburgh. Oxford: At the Clarendon Press, 1901. 4 vols. Pp. lxxxix., 527; i., 415; vi., 412; viii., 611.

Prof. Fraser, to whom we owe the most complete collection of Berkeley's Works, has, in his eighty-second year, undertaken a new edition. Comparing it with the four volumes which he published in 1871, we notice that one part of the old edition is not contained in the present, namely the biography which constituted the former half of the volume entitled "Life and Letters". Only the outline of a biography, intended to serve as an introduction to the Works, is prefixed to the new edition, and the old volume (which is still in stock) is to remain "as a magazine of facts for reference". As things are, this was, no doubt, the best course to take, although the old biography can no longer pretend to be

what it was, when it first appeared: a complete collection of the letters and other biographical materials extant. I hope to have another opportunity of offering a little contribution towards the completeness of their list, but must here restrict myself to the matter common to both editions or added in the new one.

Great improvements have been made. The alterations consist chiefly in a new order of the Works, a revision of the prefaces and footnotes, and the incorporation of new discoveries.

The new arrangement of the Works is very satisfactory. The first three volumes contain the strictly philosophical works in chronological order; the fourth volume consists of the rest of Berkeley's writings, also in chronological order. Thus, the first volume contains the so-called "Commonplace Book," the "New Theory of Vision," the "Principles of Human Knowledge," the "Dialogues between Hylas and Philonous," and the Latin treatise "De Motu," in short, all the works constituting Berkeley's metaphysics in its early, *i.e.*, its classical form. The second volume contains "Alciphron" and the "Theory of Vision, Vindicated and Explained," the third "The Analyst" and "Siris," together with the writings connected with those two works. This distribution greatly facilitates the use of the new edition.

Prof. Fraser has, in great part, rewritten the prefaces, embodying, of course, such materials as were first published in his smaller biography (in Knight's "Philosophical Classics"). Among the numerous footnotes I think those most valuable which refer the reader to other passages dealing with the same question, and those which provide biographical notices about persons mentioned in the text or explain references to contemporary life. I have to correct here only one little mistake which I happened to notice. In the Dedication to the Earl of Pembroke, prefixed to the "Principles of Human Knowledge," Berkeley mentions the "bounty which you have been pleased to show towards our Society". This society was not, as Fraser states in a footnote, Trinity College (Dublin), but the Dublin Philosophical Society, with the Earl of Pembroke as its president and Berkeley among its members. I will also mention here that the fact of the date of one of Berkeley's sermons being earlier than that of his ordination as a deacon (see iv., 86), is to be explained by a passage in the old college statutes, prescribing that all Resident Masters of Arts, whether clerical or lay, had to deliver short sermons in their turn. This biographical and historical commentary is very helpful, and might perhaps even be augmented a little here and there. On the other hand, I am rather doubtful whether it be advisable to introduce, in a standard edition like the present, notes which are intended to explain or criticise the philosopher's doctrine, or to compare it with that of other philosophers. It must be always very difficult, if not impossible, to avoid, in such notes, a great amount of subjective bias, as to their range as well as their contents. Besides, Berkeley's style of writing hardly calls for explanatory comments, except where beginners in philosophy

are concerned, and they would probably turn rather to a book like Fraser's *Selections from Berkeley*, where such a commentary is perfectly justifiable and appreciable. But, however one may think on these points, it must be acknowledged that, in the new edition, Prof. Fraser has striven to condense such notes and to lessen their subjectivity, as will be seen, *e.g.*, by referring to those passages of the first edition which laid stress on Berkeley's supposed "Dualism".

One mistake in the footnotes is rather surprising, coming as it does from such a specialist on Berkeley. The "New Theory of Vision," so very interesting to the psychologist, contains some curious reflexions on the Minimum Sensibile (Minimum Visibile and Minimum Tangibile), which cannot fail to remind one of later speculations on space-perception, such as were carried on for example by Lotze. Now, these reflexions are to be found as early as in the "Commonplace Book," where Berkeley uses the abbreviations M. S., M. V., M. T. (see i., 11). His definition of "M. S." as "that wherein there are not contained distinguishable sensible parts" does not leave room for the slightest doubt that those abbreviations stand for the above-mentioned Latin phrases. But Prof Fraser reads them "matter sensible," "matter visible," "matter tangible" —an explanation which deprives those interesting passages of all meaning. In reading this I could not help being reminded of Prof. Fraser's somewhat high-handed remarks on the speculations of "some German savants," such as "Lotze, Helmholtz, or Wundt," which he thinks of "little philosophical value," at least "from Berkeley's point of view," and only of "physiological interest". Do not England and the Continent suffer from two opposite extremes, psychology being, in some quarters, as much overvalued here as underrated there? At any rate, Berkeley himself, or, let us rather say, the young Berkeley, was in this respect more modern than his critic, as was already pointed out on a former occasion in this same periodical by George Croom Robertson, its then editor. And some intimacy with recent psychological literature would certainly not be useless to an annotator of the "New Theory". It is, *e.g.*, a little strange to find in a book published in 1901 a list of the more important cases of persons born blind and healed afterwards, ending with a case of 1858 as "one of the last and best described" (see ii., 413).

While Prof. Fraser's first edition was in the press he discovered a third edition of "Alciphron" and the original edition of the "Querist". In both cases he gave in an appendix the differences which he found in these two editions. They were for the first time printed in full by Mr. George Sampson in his more popular but careful edition of *Berkeley's Works* (in "Bohn's Library," 1897-8). Mr. Sampson further discovered, besides another (spurious) third edition of "Alciphron," a letter addressed by Berkeley as Bishop of Cloyne to his clergy in 1745. This letter is, of course, now also to be found in Fraser's new edition. As to the "Querist," the numerous

queries contained in the first edition, and omitted afterwards, are again given in an appendix. No doubt Prof. Fraser was right in deeming it unnecessary to print both editions in full like Mr. Sampson; but would it not have been much preferable to print the complete text of the first edition, enclosing in brackets those queries which were omitted later on? With regard to "Alciphron" the new edition professes to take notice of the alterations introduced by the philosopher in the second and third editions of these dialogues. But a comparison with the appendix to the second volume of the old edition, as well as with that of Mr. Sampson, would show that this has not been done very carefully.

As the original editions are far out of my reach at this moment, I do not know to what degree the new edition has otherwise followed the principle of noting scrupulously all alterations, even the smallest, introduced by the author in later editions. I think this principle indispensable for every standard edition of a great philosopher. For, however trifling such differences may often appear at first glance, every one who has ever tried to follow the development of a philosopher's doctrine knows that additional light may sometimes be thrown on such researches by differences which, to another reader, would seem quite insignificant. For the same reason, I should have liked to see the "Commonplace Book" edited with pedantic accuracy and without any omissions. That very small and external things sometimes can afford an interesting insight can be seen in the little booklet in the library of Trinity College (Dublin) which contains, in Berkeley's own handwriting, the first sketch of the introduction to the "Principles". The dates written on the margin of the MS. show that the young philosopher wrote his book in small but pretty regular daily portions, as if he had set himself a daily task. This cannot be gathered from Fraser's edition, which gives only two or three of those dates, picked out at random. An exact philologer would further take exception to the method of enclosing extracts from letters in quotation marks, when the original words are abridged and otherwise altered, even though the sense be the same.

Prof. Fraser must himself have seen the little booklet just mentioned, for he says he found it in the library of Trinity College. Under these circumstances, I cannot understand why he did not include in his edition a sermon on "Thy will be done on Earth as it is in Heaven," which is contained in the same little volume. It is of greater philosophical interest than most of the sermons and skeletons of sermons which he has published.

While the new edition was in the press, some more writings of the philosopher came to light. Prof. Swift Paine Johnston of Dublin discovered, also in the library of Trinity College, an essay "Of Infinites," which he published in *Hermathena* (xxvi., 1900), just in time for Prof. Fraser to affix it as an appendix to the third volume. I succeeded myself in identifying an anonymous political tract ("Advice to the Tories Who Have Taken

the Oaths") as coming from Berkeley's pen. It is directed against the Jacobites and was published by me in the *Archiv für Geschichte der Philosophie* (xiv., 312), too late, I am sorry to say, to be embodied in the present edition.

In a former article in the *Archiv* (xiii., 541; see also *Proceedings of the Royal Irish Academy*, 3rd series, vi., 272) I had proved that a letter, hitherto ascribed to the philosopher, was in reality written by a namesake of his, also a clergyman, and I had mentioned a suspicion that the facsimile of Berkeley's handwriting under his portrait (in the old edition) had been taken from this very letter, not written by the philosopher at all. In the new edition, that facsimile has been replaced by another—I do not know whether for the reason just mentioned. Prof. Fraser does not say anything about it, nor does he state from what document the new facsimile was taken; but he accepts my theory concerning that letter (see i., p. xlii).

I am afraid the confounding of two persons with the same or a similar name has played him another trick. The letters between the philosopher and Lord Egmont can leave but little doubt that there is another Mr. Clerke among his friends, besides the famous metaphysician Dr. Samuel Clarke. But in the short biography prefixed to the new edition these two appear under the name Clarke as one and the same person (see index).

On the whole, we have to thank Prof. Fraser for having founded a standard edition of Berkeley's Works. And if we point out that there is room for further improvements, no one will probably acknowledge that more readily than he himself, as he says in his preface: . . . "I offer these volumes which still imperfectly realise my ideal of a final Oxford edition of the philosopher who spent his last days in Oxford, and whose mortal remains rest in its Cathedral".

THEODOR LORENZ.

VI.—NEW BOOKS.

The Principles of Morality and the Departments of the Moral Life. By Wilhelm Wundt. Translated by Margaret Floy Washburn, Ph.D. London: Swan Sonnenschein & Co., Limited; New York: The Macmillan Co., 1901. Pp. xii., 308.

It might seem enough to state shortly that we have here an exceedingly careful and readable translation of the third and last volume of the second edition of Prof. Wundt's *Ethik*, seeing that there has already appeared in a previous volume of Mind (xii., pp. 285-292) a most searching critical analysis of the German first edition. But some years have passed since Mr. Thomas Whittaker wrote his able review. Hence a few additional comments of a general nature may now be offered as possibly not inopportune, especially if it be the case, as I venture to think it is, that philosophers have in the interval displayed an increasing disposition to view the problems of Ethics in much the same light as that which the volume before us seeks to cast upon them.

Prof. Wundt is an empiricist for whom experience, in virtue of the predominance he assigns therein to Apperception, the conative norm-positing moment, is an actuality which in essence is a perpetual reaching-beyond-itself—an actuality into which ideals enter actually and organically, as constitutive principles of its life, as very blood and marrow. Thus it were almost as correct to term him an idealist. The premisses are empirical, the conclusion idealises, and the logical transition is effected by means of—an enemy would say 'under cover of'—the idea of Will.

Applied to Ethics, this theory requires History to pave the way for Normative Science, and at the same time insists that Normative Science must contribute something of its own, ere the verdict of History can become the norm. Origin is not in itself equivalent to Validity, though on the other hand Validity uninstructed with regard to Origin is futile guess-work. An Ethnic Psychology, which presses Anthropology and the History of Culture into its service, is the indispensable propædeutic of legislative Morals. And Prof. Wundt is ready to practise what he preaches. The other two volumes of his *Ethics* present us with a specimen of the kind of historical preparation needed, into the particular merits of which—questionable as these perhaps are as concerns the treatment of sundry matters of fact, *e.g.*, the connexion of early religion with morality, or the characteristics of the English moralists—we are hardly called upon to enter here. Meanwhile, the general methodological principle according to which his treatise is arranged will surely be voted admirable by all save those who, fearing to face experience as it comes to us mixed and wholesale, take refuge in a barren dualism which disjoins duty and doing once and for all time.

Presupposing, then, a historical survey of the evolution of our ethica ideals, we proceed from 'is' to 'ought'. (There is lacking, by the way, any introductory explanation of the methods by which, historically, the live ideal is to be distinguished at any given moment from the decaying

survival, more especially in times when there seems to be taking place what *we* should call a general set-back—a degradation and 'dissolution' —in the moral world.) Ethics, having somehow detected the *de facto* Best-under-the-circumstances, converts it by the *fiat* of the Will it embodies into a *de jure* Best. Such a Best (until such time as the law of the "heterogony of ends" causes a Better-still to appear) has necessity. That is, it is posited by the ethical Will *as* necessary, since unconditionally imperative. Merely a methodological necessity—the critic will urge. To which the reply is that what is necessary for Ethics is necessary for the self-organising progressive life as a whole; for the normative sciences as a class rule the unconsciously normative physical sciences as a class, whilst Ethics in its turn rules the normative sciences, even Logic, though second in authority, being inferior, in fact an "ethics of thought". Such a reply would seem to save the dialectical situation. Whether, however, the historical Ethics of which Prof. Wundt previously treated was always taken in this wide sense, namely, as the architectonic science of universal valuation, is another matter.

And where, it may be asked, do *we* come in? Ethics is said to posit the 'ought'. *Whose* Ethics? Or has Ethics a Will of its own? It is to the latter alternative that Prof. Wundt would appear to incline. The "objectivity" of moral duty is thus secured; but, one is tempted to insist, at some cost. For what is duty to me if my Individual Will be not as such concerned therewith? (It is the ineradicable vice of the English mind, so we are told in the second volume, to harp on this string.) The Social Will under God—who in Prof. Wundt's metaphysic bears a suspicious resemblance to the Absurd Infinite of the mathematicians—is invoked as a sort of higher personality before which we are bound to bow. But surely not unless we choose; for otherwise what becomes of the autonomy of Will? But, if our choice is involved in the matter, then clearly we have severally the right to demand an explicit and intelligible answer to the question—Why must I? It is no answer to say—Because the duty is objectively *there;* unless this objectivity is somehow shown to be likewise subjective and internal for me—the property of a system which I own, even though it owns me *sensu eminentiori.* Let Ethics by all means seek to give objectivity to its norms. If I elect to 'play the game,' it is obvious that I must attend to the game regardless of whether my partners are also doing their best or no. It is a fact of experience that a peddling policy of give-and-take is wont, ethically, to defeat its own ends. But the constructor of ideals cannot afford to disregard this fact either, that individual personality is a 'live option' of actual human nature when at its most moral. Hence it would seem that Prof. Wundt's supreme norm—that the "larger" end must always be preferred, the social before the individual, the humanitarian before the social—needs to be brought home to each 'me,' as self-evident, as æsthetically perfect, as a characteristically moral intuition, as satisfying our whole nature, or what not. Else it is in danger of becoming an unworkable abstraction of the kind that lumbers up our philosophical museums. The materials, indeed, are at hand for a solution on the lines suggested. There is the psychological scale of activities, understanding supervening on perception, reason on understanding; there is the position assigned to the "subjective duty" of self-respect; and so on. Meanwhile, there is practical failure to bring moral duty *home* to the free individual Will—as it seems, at least, to one who has been reared amidst the "egoistic" traditions of English Ethics.

R. R. Marett.

Inductive Sociology: a Syllabus of Methods, Analyses and Classifications, and Provisionally Formulated Laws. By F. H. GIDDINGS, Ph.D., LL.D. Macmillan & Co., 1901. 8vo, pp. xviii., 302.

"THE object of this book is to present a scheme of inductive method, a somewhat detailed analysis and classification of social facts, and a tentative formulation of the more obvious laws of social activity—all as a basis for further inductive studies . . . only one-half of the field of General Sociology is here described. Studies of the historical evolution of society and of the deeper problems of causation are not included. Within this limited field these pages contain much material, and many developments of theoretical detail, not given in my earlier books." The broad features of Prof. Giddings' conception of Sociology are sufficiently familiar. Sociology is in the main a psychological science: being, that is, for the most part a study of mental phenomena as presented by a number of interacting minds—a study, therefore, of "the interaction of minds, and of the reciprocrocal adjustments of life and its environment through the evolution of a social medium". The unit of investigation is the socius, and the social phenomenon *par excellence* is that of "like-mindedness".

Sociology uses all known methods of scientific research: "its chief reliance, however, is necessarily upon inductive method". A vast amount of inductive work has already been accomplished. A great many "classes" have been formed, and the further task of inductive sociology is to "define, subdivide, and co-ordinate these classes, and then to arrive at such conclusions as are possible within the category of causation". Prof. Giddings proposes, therefore, to "present a classification of social facts which seems to be warranted by existing knowledge, and to carry it out into tabular schemes of further inductive study, which, it is hoped, may in time lead to the verification of sociological laws already formulated, and to the discovery of others not yet surmised". A striking feature of the present work, accordingly, is a series of "Tables" each of which "contains all the data necessary to enable the investigator or student to construct in outline or blank form the table which should be filled out with the results of his inquiries". Some of these Tables seem, to an unitiated student, fearfully and wonderfully made, and to be at best of very unequal and uncertain value. The following specimen is taken at random:—

TABLE XXI.—TYPES OF CHARACTER.

M 1. Forceful.	M 3. Austere.
M 2. Convivial.	M 4. Rationally conscientious.

(M stands for "majority" or "minority," and indicates that the column is to be filled with majority and minority symbols.) The investigator is referred in a note to various sources of information "Statistics of the *per capita* distribution of saloons and dance-halls are an indication of the distribution of the convivial type. Restrictive legislation affecting liquor selling, gambling, prize-fighting, horse-racing, and the use of tobacco indicates the distribution and activity of the austere type. Statistics of the distribution of independent voting throw some light upon the distribution of the rationally conscientious type." This is followed by a Table of the "characteristic pleasures to be looked for in each type of character," and another of the "traits of character found more or less in each type": this again by:—

TABLE XXIV.– TYPES OF MIND.

M 1. Ideo—Motor.	M 3. Dogmatic—Emotional.
M 2. Ideo—Emotional.	M 4. Critical—Intellectual.

TABLE XXV.—SUB-TYPES OF CRITICAL INTELLECT.

M 1. Deductive and Critical: æsthetic. M 2. Deductive and Critical: scientific.
M 3. Critical and Inductive.

It goes without saying that "the science of sociology" is prolific of terminology, if of nothing else, and Prof. Giddings' readiness and confidence in this particular, as in many others, is truly remarkable.

We are not satisfied, however, that "like-mindedness" (with its species of instinctive, sympathetic, dogmatic or formal, deliberative like-mindedness) is the open sesame to the interpretation of social phenomena. It cannot be said that political phenomena, still less economic phenomena, are merely developments of "like-mindedness," or can be resolved into a mere "consciousness of kind". Though Prof. Giddings admits at the end of his book that "since the tendencies towards both cohesion and dispersion are persistent, the social system simultaneously exhibits phenomena of combination and of competition, of communism and of individualism," all that we have heard about so far is "cohesion" and "co-operation". The curious point of view from which Prof. Giddings considers economic phenomena is not a little significant of his method. "Incidental to these developments of co-operation in civilisation are the phenomena of concerted volition in financial or industrial booms, crazes, panics and strikes," and concerted volition is consciousness of its kind "in its higher developments". Again, "when the advanced industrial system has been created by the more highly rational modes of like-mindedness, the sympathetic like-mindedness which survives in all societies, however highly evolved, can from time to time manifest itself in widespread economic speculations, industrial 'booms,' financial panics, and contagious strikes".

This is not, however, the place for any examination of the foundations on which the Inductive sociology of Prof. Giddings rests; but one cannot help feeling a misgiving as to the use to which it may be put "in the college class-room and in the university seminary"—more especially if it is to be regarded as a substitute for the more familiar, if more limited, disciplines of ethics, politics, and economics.

SIDNEY BALL.

A Student's History of Philosophy. By ARTHUR KENYON ROGERS, Ph.D., Professor of Philosophy in Butler College.

Prof. Rogers seems to us to have accomplished a very difficult task with remarkable success. It is no easy matter to give in the brief compass of some five hundred pages an account of the history of philosophy from Thales to the present day which shall be at once trustworthy and readable, and shall avoid the appearance of affixing labels to each thinker in turn. Yet this Prof. Rogers has done: and he has done it to a great extent in consequence of his admirable method of giving as often as he can somewhat extensive quotations from the writers of whom he speaks. He thus contrives to give the just impression that there is more to be found in them than he has told us; and to avoid the air of having given in a conveniently compressed form all that is important to know about them. The first few and the last few pages of the book are the least satisfactory. The first might with advantage be simpler; the last might show more clearly the relationship between different lines of thought at the present time. It is true that Prof. Rogers reasonably enough declines to aim at completeness in his account of contemporary

philosophy; but the name of Lotze should not have been altogether omitted; and one would have expected some recognition of the work of Mr. Bradley. Among the best things in the book are the accounts of Bacon, of Kant, and of Hegel: all of them for various reasons especially difficult subjects. Some criticisms in detail occur to us. In the description of Aristotle's ethical teaching, the μεγαλόψυχος of *Eth. Nic.*, iv., is too much put forward as Aristotle's own moral ideal. On page 200 the rejection of the view that matter is intrinsically evil by the Christian Church is ascribed not unjustly to a 'feeling for the dignity and infinity of God': but some mention should also have been made in this context of the central Christian doctrine of the Incarnation. On page 202 the Roman Empire is said to have been able to rouse the enthusiasm of the provincial 'much less' than of the Roman mind; but was not something like the reverse of this the truth? The statement (on p. 218) that Anselm's doctrines had 'much the same general tendency' as Erigena's is misleading. Both no doubt were in a certain wide sense Platonic. But Anselm's antecedents are to be sought in the recognised doctor of the Western Church, St. Augustine; it was mainly through Augustine that the influence of Plato reached him: while Erigena's predecessors belong to the Eastern Church, and Platonism came to him rather from the school of Proclus through 'Dionysius the Areopagite' and Maximus of Tyre. There is no trace of the Areopagite's influence in Anselm; though it was felt again at a later time in scholasticism. This influential writer is nowhere mentioned by Prof. Rogers; and another oversight is the absence of the name of Averroes, whose teaching appears to have had no small share in determining the form of the system of St. Thomas Aquinas. Prof. Rogers does not seem to know of Anselm's answer to the criticism of Gaunilo. It is difficult to understand why on page 397 Kant's critical philosophy is said to have been 'the starting point of *one* of the two great movements of recent thought': it seems to be recognised on page 499 that *both* idealism and agnosticism (so to call them) go back to Kant. There are some small slips to be mentioned: Berkeley, though he died and was buried at Oxford, was never a student there; and 'Dublin' should therefore be read for 'Oxford' on page 359. The editor of *Lucretius* was *Munro*, not *Monro*. The remark on page 213 that 'it was the peculiar task of the Middle Ages to carry out by *their* authority the training of barbarian Europe' is surely ill-expressed: the authority was not that of the middle ages themselves. Among books which might well be added to the useful little bibliographies which Prof. Rogers appends to his chapters there occur to us Dr. Bigg's *Neo-Platonism* and Dr. Rashdall's *Universities of Europe in the Middle Ages*.

C. C. J. Webb.

Texts to Illustrate a Course of Elementary Lectures on the History of Greek Philosophy from Thales to Aristotle. Macmillan, 1901. Pp. xii., 111.

The primary purpose of Prof. Henry Jackson's volume of select texts is to meet the needs of certain victims of the Cambridge examination system, for whom the sources of the history of ancient philosophy are prescribed as what the elegant diction of the sister university terms a "semi-prepared" subject. Dr. Jackson has, however, the further end in view of compelling within the same covers some keynote passages required for constant reference by more advanced students of Greek philosophy. He designs to illustrate lectures the aim of which "is not

so much to record the details of systems as rather to trace the development of philosophical thought". By "elementary" Dr. Jackson does not mean popular, but in outline.

The labour-saving character of Dr. Jackson's compilation, for the purposes of the lecture-room of Trinity College and for those of Cambridge generally, will at once be recognised. And granted that it is better to save the exceptional pupil from the toilsome collation of note-books and verification of quoted passages, and not worse to dispense the average pupil, who usually dispenses himself, from the need of looking up "gobbets" in their context, Dr. Jackson's selection may be useful even to a wider circle. It will scarcely displace Ritter and Preller's *Historia* in the outer world, but the chapter on Plato must stir outside interest. The passages which so accomplished a Plato scholar as Dr. Henry Jackson thinks to be crucial for the interpretation, or typical of the teaching, of the chief Platonic dialogues must indeed "be generally acknowledged as important".

Given the legitimacy of Dr. Jackson's purposes, the texts are well chosen. And they are well printed. It remains only to dispute *de gustibus*. In the excerpts dealing with the pre-Socratic philosophers we miss certain passages relevant to the claims of Anaximander as "a Greek forerunner of Darwin," and a passage of Simplicius which we are accustomed to consider of essential importance in the matter of the *homœomera* of Anaxagoras. Coming lower, we would prefer a quotation from the doctrine of Prodicus as against that given from the sophists of Plato's *Euthydemus*. The paragraph on Euclides stops a line too short. The section on Antisthenes omits the passage from Stobæus on pleasure after toil. The famous divided line in Plato's *Republic* is further subdivided by Dr. Jackson. The selections from Aristotle, especially from the *Organon* and the *Ethics* are, as Dr. Jackson allows, not representative but useful. Some passages from the biological writings would have been valuable in preference to the overlarge quotations from *Metaphysics Z* —the half here is not only less than the whole but less than a smaller selection. There is no passage from the moral psychology of *De Anima*, iii., and *Ethics*, vi. There is nothing on practical syllogism. Choice, with an eye to passages to which Dr. Jackson proposes to refer in lecture, is of course entirely justifiable, but it implies an opportunism which diminishes his book's usefulness outside. However, Dr. Jackson's texts are only texts, and it rests with the preacher to fill in the gaps. A student who had come to realise why Dr. Jackson chose each of his texts would know a good deal of Greek philosophy.

HERBERT W. BLUNT.

Saint Anselme. Par le COMTE DOMET DE VORGES. Paris: Félix Alcan, 1901. Pp. vi., 334.

This is one of a series of monographs on *Les Grands Philosophes* written, if we may judge from the contents of this volume, and from the names of the contributors of others, from a Roman Catholic point of view. M. Domet de Vorges has evidently read his author thoroughly, but his book would have been more valuable had he not been less concerned to think himself into St. Anselm's own position than to compare it with that of the later scholasticism, and especially with that of St. Thomas, whose views he practically treats as authoritative. This characteristic has not unfrequently led to the introduction of irrelevant matter. There is, for example, a whole chapter on Realism and Nominalism, which would have been better away; for Anselm, as he justly observes, did not occupy

himself directly with that controversy. Nor is there again anything particular about Anselm in the chapter called 'Du Composé Humain,' which is intended to show that 'of all philosophical theories the animism of Aristotle, which is also that of St. Thomas, is the only one harmonising fully with the facts' discovered by modern biology. But M. Domet de Vorges's dogmatic point of view leads to worse faults than irrelevance. It makes him incapable of genuine criticism. It induces him to apologise (p. 241) for the absence of the notion of 'creation,' from the writings of the ancients on the ground that 'they had no instance of this mode of production before their eyes'. Was M. Domet de Vorges, we may ask in passing, more favoured than the hero of the Book of Job, in having been present when God laid the foundations of the earth? In the same spirit, he takes Anselm to task for confusing the spheres of nature and of grace (p. 208) without seeing any need to criticise his own principle of demarcation between them; he refuses to trespass on what he considers theological ground in a philosophical work, and by this refusal deprives of all claim to completeness his discussion of Anselm, who would surely have been much surprised at his remark that the doctrine of the Trinity is (as he oddly puts it) 'un hors d'œuvre dans un ouvrage de pure philosophie' (p. 263). No one capable of thus withdrawing a whole region, and that the most important, of human speculation, from the survey of philosophy can be expected to understand so genuine a metaphysician as Anselm. Hence one is not surprised to find him wholly mistaking the intellectual character of his hero. He wished, he tells us, speaking of the *Monologium*, less to instruct than to elevate and improve (p. 264). This judgment is hopelessly at fault. Anselm's desire was primarily neither the one nor the other; it was (as he tells us himself) to understand: the very title of the *Monologium* should have prevented his critic from finding it a sermon. Neither with Spinoza nor with Hegel was the primary impulse more truly that of disinterested speculation than with Anselm. It is only what is to be expected after this misunderstanding, when we find that the profounder results of Anselm's reflexion, such as his doctrine of the divine light (p. 106), are unintelligible to M. Domet de Vorges. Ancient or modern analogies do not come to his aid; for philosophy outside of scholasticism is to him practically an unexplored region. He supposes (on p. 245), for instance, that modern thought finds little difficulty in the conception of a creator who once upon a time made the world and let it go on its own way without further interference, but can see no reason in the doctrine of its need of perpetual conservation by the power to which it owes its origin. He lives, one may say, in a fool's paradise, where he takes the slender stream of modern scholasticism for the full river of living human thought which once flowed along that channel but has now deserted it for ever. Few whispers from the world without penetrate into this enchanted country. The names of Kant and of Hegel as critic and as defender of the 'ontological argument' have reached our author's ears; but he is sure that St. Anselm would have been as little moved by the praises and counsels of Hegel as by the objections of Kant. His mind was too deeply imbued with the doctrine of the Fathers of the Church to take account of appreciations founded on principles so far removed from *la saine philosophie traditionelle* (p. 306).

On the 'ontological argument' itself, to the consideration of which chap. vii. is devoted, M. Domet de Vorges's criticism is very far from penetrating. He misconceives the whole inner meaning of Anselm's reasoning, because he obstinately persists in studying it from the point of view of 'inference,' 'analogy' and the like, scholastically conceived,

without ever asking himself what is involved in these processes. From a philosophical standpoint like his, it is true, which is that of uncritical agnosticism, this crowning thought of Anselm's must be necessarily unintelligible.

Of the problems which beset the notion of causality (p. 308), or of the need of asking himself what he means by 'outside' (p. 228) he has no inkling. It is curious that he seems to be unacquainted even with writers on Anselm of his own communion beyond a certain circle; he shows no sign of having heard of the works of Mr. Rule or Mr. Rigg. He thinks it necessary to explain that Anselm's *De Conceptu Virginali* does not deal 'as one would expect' with the immaculate conception of the Virgin herself (p. 77). The historical evolution of dogma or opinion does not exist for him. The traditional truth has always been the same; 'St. Augustine, St. Anselm, St. Thomas all knew and taught the same doctrines' (p. 110). The connexion of this view, so strangely at variance with the dominant tendencies of our time, with certain currents in contemporary French politics peeps out in the exclamation on p. 68) from which we learn that bishops like St. Martin and St. Anselm are yet to 'snatch France from the grip of impiety and anarchy'.

M. Domet de Vorges' scholarship leaves much to be desired. He transposes subject and predicate in translating *Nihil apertius quam nullam rem esse malum* (p. 215 n. 1). He suggests that the works of Dionysius the Areopagite, whom strangely enough he regards as a philosopher of the first rank, were buried (like Aristotle's) for centuries, so that though perhaps really written by St. Paul's convert, they were notwithstanding not available for use in the controversies of the primitive Church (p. 31). He does not grasp the distinction between Predicables and Predicaments (p. 145). He does not seem (from the list of Anselm's works on p. 80) to have studied the preface to Gerberon's edition, which distinguishes the treatises which are printed in that edition according to their varying claims to authenticity. He quotes with respect (p. 149) M. de Wulf, whose untrustworthiness as a guide to the history of mediæval philosophy, we were compelled to point out in MIND, N.S. No. 25. He has indeed drawn his information far too exclusively from Roman Catholic sources. Thus he would have easily found an 'indication de source' of the saying quoted from William of Occam on p. 237, had he gone to Erdmann or to Hauréau.

M. Domet de Vorges has no suspicion that, in the designation of the best known thinker of the ninth century, *Scotus* and *Erigena* mean the same thing, and proposes to reconcile them by supposing John to have been of a Scotch family but born in Ireland (p. 28). He has read Eadmer's life of St. Anselm very carelessly; thus the relations of Anselm to his father immediately before his flight from Aosta are quite wrongly described on p. 48, and on p. 49 he has confused the refusal of the abbot at Aosta to receive Anselm as a boy into his monastery with Lanfranc's later hesitation as to his admission to the fellowship of Bec. Not only did Lanfranc not require the leave of Anselm's father, but Anselm's father was already dead when Anselm consulted Lanfranc as to the best way in which he could live a religious life, and one of the alternatives suggested was that he should live upon his own patrimony and minister of his inherited goods to the poor. The printing, especially of Greek words, is careless; we have χρῖνον for κρῖνον (p. 91); πολλακῶς for πολλαχῶς (p. 161); *Noirmoutiers* for *Marmoutier* (p. 72); *sint* for *sunt* (p. 219 n. 1).

C. C. J. WEBB.

Nouvelles Observations sur un cas de Somnambulisme avec glossolalie. Extrait des *Archives de Psychologie de la Suisse Romande I.*, ii., p. 101-255. Par TH. FLOURNOY, Geneva, 1902; London (Williams & Norgate).

Prof. Flournoy's 'observations' refer to the 'mediumship' of 'Mlle. Hélène Smith' which he studied so acutely in his justly famous book, *Des Indes à la planète Mars.*[1] They record, however, little of importance in the way of novel developments, and it appears that Prof. Flournoy's opportunities of observing the case have been somewhat restricted, and that there has lately been a final rupture of relations with 'Mlle. Smith,' who has been endowed by a wealthy American lady with a competence, in order that she may be able to devote herself entirely to the peculiar form of contemplative life for which she seems to have such aptitude. As this happy change in her circumstances has been due to the attention drawn to her by Prof. Flournoy's book, and as the scientific interest of her case rests almost entirely on his emphatic endorsement of her honesty, under what would otherwise have seemed to be rather suspicious circumstances, this discarding of Prof. Flournoy somewhat savours of ingratitude. Yet it is after all natural that 'Mlle. Smith' should herself prefer the more romantic spiritist interpretation of her phenomena, which makes her a divinely gifted intermediary between our own and other worlds (especially as this is also the view of her benefactress), to one which makes her, at worst, a fraud, and, at best, a curious case of morbid psychology. One can understand, therefore, that 'Mlle. Smith' should be "profoundly irritated against science and scientists and desires to have nothing more to do with professors" (p. 115). But the loss to science may be considerable, if this means, as is probable, that henceforth no accurate and trustworthy record will be kept of 'Mlle. Smith's' performances. This result will no doubt be satisfactory both to the spiritists, who in their pursuit of edification and titillation of their sense of the marvellous will be freed from the irksome criticisms of scientific method, and to the 'orthodox' scientists who will be able to cherish the comfortable feeling that no further novelties menace the symmetry of their preconceived systems from this quarter, and that academic psychology may return with a good conscience to the more congenial pursuit of counting 'sensations' and tabulating 'reaction-times'. As for Prof. Flournoy himself, he deserves the thanks of the few who really 'desire to know' and to explore these obscure facts with an open mind, and their congratulations on the manner in which he has acquitted himself of a difficult and invidious task.

The only point which criticism could perhaps raise is a delicate one of the logic of science, or rather of a possible divergence between the logic of proof and the logic of discovery. Prof. Flournoy's method is to explain away the creations of 'Mlle. Smith's' subliminal imagination by reduction to recognized psychological principles. And he is completely successful in disposing even of the most startling features in 'Mlle. Smith's' mediumship. It is almost pathetic to watch 'Mlle. Smith's' subconsciousness struggling vainly to reverse the verdict passed on her 'Martian' by the analogous production of 'Ultramartian,' 'Uranian,' and 'Lunar' languages, pictures and scripts. The scientific explanation is the same in all cases and constitutes a crushing exposure of such naive methods. But the effect on the 'medium' is either discouragement or disgust, which either check the production of the phenomena, or (as in

[1] *Cf.* MIND, N.S. 36, p. 546.

this case) withdraw them from the purview of science. Hence science seems in such cases to defeat its own purpose. Its aim is to elicit as much novelty as possible, to provide for study as much and as good material as it can. But by prematurely insisting on the connexion of the new with the old, it checks discovery. Hence a distinction would seem to be suggested between the methods appropriate to discovery and those by which, *after discovery*, the systematic validity of the new truths may be exhibited. Thus a spiritist interpretation might conceivably have proved a better working method of bringing out 'Mlle. Smith's' capabilities, without being on that account accepted as the final explanation, and it seems possible that if Prof. Flournoy had treated it as more of an alternative to his own and had refrained from so triumphantly showing it to be totally unnecessary, he might have retained his position as his medium's scientific director. But the personal questions which arise in such cases are usually extremely difficult, and we owe it no doubt to Prof. Flournoy's great tact that the co-operation of 'medium' and professor endured so long.

F. C. S. Schiller.

L'Opinion et la Foule. Par G. Tarde, de l'Institut, Professeur au Collège de France. 1 vol. in-8o de la *Bibliothèque de Philosophie Contemporaine.* 5 fr. (Félix Alcan, éditeur), 1901. Pp. vii., 226.

This volume includes three studies in "collective" or "social" psychology—to use the current phrase—*psychologie inter-spirituelle* being the title by which the author himself would prefer to designate the psychology of what is really the interaction of minds. They have all appeared before, but as now put together for the first time they may be said to form a continuous subject. In the first and main study ("*le public et la foule*"), the special object of investigation is "the public" as distinguished from "the crowd". "The public" is *une foule dis persée* in which the interaction of minds has become an action at a distance, and it is essentially a modern product created by modern means of communication. The author sums up the general conclusion of his study in the following passage :—

"J'incline à croire, malgré tout, que les profondes transformations sociales que nous devons à la presse se sont faites dans le sens de l'union et de la pacification finales. En se substituant ou en se superposant, comme nous l'avons vu, aux groupements plus anciens, les groupements nouveaux, toujours plus étendus et plus massifs, que nous appelons les publics, ne font pas seulement succéder le règne de la mode à celui de la coutume, l'innovation à la tradition ; ils remplacent aussi les divisions nettes et persistantes entre les multiples variétés de l'association humaine avec leurs conflits sans fin, par une segmentation incomplète et variable, aux limites indistincts, en voie de perpétuel renouvellement et de mutuelle pénétration."

The second study ("*l'opinion et la conversation*") treats 'opinion' as the direct consequence of 'the public,' and 'conversation' as the most general and constant source of 'opinion'. In his study of 'conversation' the author is conscious of breaking new ground, and of working with insufficient data. He suggests that a complete history of 'Conversation' would be a highly interesting document of social science, and even contemplates the possibility of a science of 'comparative conversation,' to take its side by a science of comparative religion, art, or industry. In the meantime Prof. Tarde's observations on this topic, in spite of their tentative and unmethodical character, are full of interest and suggestion.

The last study ("*la foule et les sectes criminelles*") is on more familiar ground. The writer distinguishes between different forms of social groupings, from the 'crowd' to the 'corporation,' in the widest sense of the term; emphasises the *rôle* of the *meneur* or *conducteur*, and the inferiority of the crowd in intelligence and morality to the average of its individual members; analyses the comparative psychology or pathology of crowds and criminal associations (such as Anarchists); and accentuates throughout the *complicité du milieu* in *des crimes collectifs*.

These studies are characterised throughout by the felicity of style and handling that distinguishes the writings of their author. The essay form is peculiarly appropriate to subjects of this kind, and Prof. Tarde is a master of this form of writing: there is hardly a page which is not lighted up by delicate observation and apt illustration. On the other hand, they read perhaps more like a mosaic of interesting remarks than the development of any single conception; and the remarks, as might perhaps be expected, are of very unequal import and value: some of them are only redeemed from triviality by their atmosphere, others are very much like glimpses into the obvious, others again deserve to be further developed. But regarded as essays or sketches these studies are a model of sociological literature; and the genial treatment of 'conversation' might well inspire *quelque jeune travailleur* with *le dêsir de combler cette grande lacune*.

SIDNEY BALL.

Pascal. Par AD. HATZFELD. Paris: Alcan, 1901. 8vo., pp. xii., 291. Price 5 fr.

This is a new volume in the series *Les Grands Philosophes* edited by the Abbé Piat. The author M. Hatzfeld died soon after finishing his manuscript, and before he could see his book through the press—a task which has been fulfilled by M. Piat. Lieut. Perrier discusses, in the third part of the work, the scientific achievements of Pascal.

The divided authorship answers to the two chief phases of Pascal's career as a scientific investigator, and as a religious enthusiast. But there is an interesting difference in the attitudes of the two authors. M. Hatzfeld inclines a little to the hagiologist who conducts his subject along a predestined path to the haven of orthodoxy. To Lieut. Perrier Pascal reveals the frailties which are found even in men of science and philosophers. I will confess that it was a relief to turn from the somewhat fervid pages which deal with Pascal's religious history, and to trace the amiable weaknesses which he displayed in his dealings with some of his contemporaries such as Torricelli and Copernicus (pp. 131, 173, 190). But so far was Pascal from being blameless in the conduct even of his religious life, that on one occasion he descended to the part of a common informer, and was the means of bringing a thinker named Forton, before the court of the Archbishop of Rouen, on a charge of heterodoxy. I do not presume to say whether Pascal in so doing approved himself a good Catholic, but the incident is somewhat jarring in the life of a philosopher. M. Hatzfeld mentions this episode without condemnation or even apology (p. 19).

Having said thus much, I can go on to praise unreservedly the Gallic clearness and brilliance of his style, qualities so rarely found in the historian of philosophy, yet surely to be required from every one who writes about Pascal. And let not the objection be raised that style is a matter of literature, rather than of philosophy. Pascal's masterly fragment *De l'Esprit Géométrique* shows how closely, in his mind, thought and expression ran together.

But in Pascal, as Lieut. Perrier says (p. 188), there is something beyond style; there is 'the admirable ordering of the plan'. And it is here that I find a serious deficiency. It is impossible to separate Pascal's mathematical theory of probabilities from his standpoint as a thinker, and we do not find given us any systematic account, which may bring together the varied applications of this theory, notably in the wager about the Existence of God (p. 264), and, on the other hand, in the realm of human action. It is surely a paradox that Pascal should have formulated the theory of probabilities, and, also, have been the champion of those who refuse to apply the theory to casuistry.

As far as I am able to judge, Lieut. Perrier has performed his task in an admirable manner. And the book, as a whole, is an excellent introduction to the study of Pascal. It is to be hoped, however, that in the succeeding volumes of this series the writers may have a freer hand. In the *Pascal*, as in the *St. Augustin*, too much is said about the orthodoxy in which these great minds found rest, and not enough about the origin and history of their opinions,

FRANK GRANGER.

Kant's Theorie der Kausalität: Eine historisch-kritische Untersuchung zur Erkenntrisstheorie. Von Dr. M. WARTENBERG. Leipzig, 1899. Hermann Haacke. (London: Williams & Norgate.)

Das Problem des Wirkens, und die Monistische Weltanschauung: Eine historisch-kritische Untersuchung zur Metaphysik. Von Dr. MSCISLAW WARTENBERG. Leipzig, 1900. (Same publishers.)

These two volumes, written with youthful enthusiam and freshness, represent one of the many attempts now being made, to dethrone the prevailing monism, and to substitute for it a pluralistic conception of the universe. In the earlier work, the idea of causality is discussed from the point of view of the Theory of Knowledge. A clear and readable, if somewhat diffuse, statement of Kant's theory, especially as it stands in the *Critique of Pure Reason*, is followed by a criticism on the lines already laid down by Sigwart. It is shown that causality cannot stand as a *constitutive* principle in our knowledge of reality, and that as a merely *regulative* principle it is an extraneous factor to knowledge itself. It is not a necessary principle, but a hypothesis, and differs from other hypotheses, apparently, in the degree of its arbitrariness, which is extreme, for there is nothing in the facts themselves to suggest it. The justification for the hypothesis is found in the Will—it is a postulate of the practical reason, not a principle or axiom of the speculative reason at all. Our desire, striving, *willing to know*, to grasp reality as an interconnected system, can be satisfied only *if* necessary, causal, connections subsist. The causal principle is valid—so far as it is valid—not on logical or on ontological grounds, but for general psychological reasons—as Sigwart had already insisted. There is, however, a certain superficiality in the distinction between knowledge and the will to know: if the latter cannot be satisfied unless causal connexion holds between different processes or stages of reality, it is *either* because the act of knowing itself implies such necessary connexion—and causality is then a *constitutive* principle, as Kant taught—*or* because the will contains an ideal of completeness, certainty, or the like, towards which it aims. The mere willing cannot suggest any postulates, and whatever is implied in an ideal of knowledge is implied in knowledge itself: the principle of causality can never rest on psychological grounds—if it has any validity at all, it is a theoretical, not, or not merely, a practical principle.

In the second work, in which there is special reference to Lotze, the problem of Activity succeeds that of Causality, and the venue is changed from Epistemology to Metaphysics. The criticism of Lotze is an attractive piece of dialectical work, marred again by a habit of diffuseness. The barrenness of Lotze's Absolute—the M which is really an X—the futility of a "progress" which is merely a perpetual renewal of the *status quo*, the inconsistency of a "freedom" of which the resultant activity is predetermined by the nature of the whole in which it is contained—these and other similar points are made with great skill. The hypothetical pluralism so established is worked out in a review of the principal spheres of being—dead matter, living organisms, and the physical world—and emerges first of all in a dualism of soul and body-substances. The facts of experience cannot be understood except on the assumption that transient activity, not merely imminent, is real, although the possibility of it can never be *understood*, because it can never be *experienced* by us. As in the material world, and in the physical world, substances act and react upon one another, so between the two kinds of substances the same interaction takes place. Psychophysical parallelism is a delusion: the principle of the conservation of energy has no validity beyond the material facts on which it is based; but even within the material world it has a merely subordinate value, because of the influence of other immaterial substances on the quantity of energy within the world. But after all, one cannot help a feeling of "*parturiunt montes*": for the dualism gives place finally to a trinism—or is it a monism? There is in the world a certain harmony, order, hierarchy of ends, which points to a supreme Substance: it cannot be thought of as an imminent cause, but is a transcendent being acting upon and from without the world! and so all the problems solved suggest themselves anew. Is there action only, or also reaction between the Absolute and the finite substances? If reaction, why should not this Absolute be one among many; if action merely, where is the freedom and independence of the individual substance?

J. L. M.

Gustav Theodor Fechner. Rede zur Feier seines 100 jährigen Geburtstages. Gehalten von W. Wundt. Leipzig: W. Engelmann, 1901.

Among the mass of studies—biographical, philosophical, or literary—which bore such eloquent testimony last year to the enduring influence of Fechner's work upon the German philosophy and psychology of to-day, Prof. Wundt's lecture takes an honourable place. We are glad to meet again the literary grace, the charming lucidity of exposition, which made the *Vorlesungen über Menschen-und-Thier-Seele* such good reading. It is no mere single aspect of Fechner's thought and life which is here touched upon. He himself lives before us for a while, such as Wundt, after the lapse of all these years, remembers that strange old man, half-blind, enthusiastic and combative, kept alive by the desire to make his system triumph, yet scrupulously impartial and objective in his treatment of criticism, however minute and technical, however remote from the central intention of his life-work; a poet who was yet among the most exact of exact scientists; an artist who could yet go about measuring the proportions of a picture with a foot-rule; a lover of nature who could enjoy to the full the glories of a sunset, observing after-images the while; a humourist who could poke fun at the conceptions he was most in earnest about. No savant was ever more thoroughly a man; no sceptic ever dwelt with more ironical enjoyment

upon the two sides of every question than did this fanatical believer in the truth of his own system. The mere logician is bewildered by what seems to him a bundle of irreconcilable paradoxes. The amateur of antithesis finds here an exhaustless mine. But neither can grasp the fundamental unity of Fechner's life and purpose. Prof. Wundt has explained this to us admirably. How much of Fechner's later development was due to the accident of his strange disease? To what extent is his system as a whole the logical outcome of his earlier Anschauung? to what extent the expression of a character enriched and broadened by long struggle against weakness and despair? These are questions upon which opinions have always been divided; Wundt settles them for us in an admirably lucid way.

Fechner began his academic life as a medical student; but, totally unfit as he was for the diplomatic side of a doctor's career, he turned to physics, to chemistry, to the exact sciences. He lectured, he composed and translated huge text-books, he made valuable original contributions to experimental physics. None of this work has any direct connexion with philosophy. But while he was translating the two volumes on *Cerebral Pathology*, the six volumes of Thénard's *Traité de Chimie;* Biot's four volumes of *Physique;* two volumes of the same Biot's *Répertoire de Chimie;* three more volumes of a *Record of Experimental Physics*, while he was editing the eight volumes of a *Hauslexicon* (all this between 1824 and 1838), he found time to write some of the most whimsical of his parodies of the prevailing Naturphilosophie, and to discover to the world the first glimpse of his 'Tagesansicht' (in the Büchlein vom Leben nach dem Tode). Prof. Wundt, who is not unproductive, marvels at Fechner's fertility. No starving compiler in a garret could rival in point of bulk the Leipzig savant's yearly average of three or four big volumes, and most of it original! What wonder if, almost as soon as his elevation to an ordinary professorship removed the necessity for making money by his pen, Fechner's nervous organisation broke down completely? But the point to bear in mind is that the Tagesansicht first dawned upon him many years before his illness. It is idle to speculate whether the Psycho-Physik would have been written, had Fechner never done those experiments on after-images which were the proximate cause of his three years' seclusion in a darkened room. All the main ideas of the Zend-Avesta are foreshadowed in the Büchlein, and almost everything Fechner wrote in later life developed out of the Zend-Avesta. This is evident to any one who has read other books of Fechner's besides the first part of Psycho-Physik, and we are grateful to Prof. Wundt for reminding psychologists of the fact that the Psycho-Physik, far from being an independent work, is a mere outpost, designed to render impregnable the central fortress. "In Wahrheit," says Prof. Wundt, "kehren alle wesentlichen Ideen des Zend-Avesta in der Psycho-Physik wieder; es sind aber auch umgekehrt die Grundgedanken der Psycho-Physik schon im Zend-Avesta zu finden." Even the psycho-physic law is anticipated in the second volume of this work. The idea flashed upon him early one morning, 22nd October, 1850. Ten years later, he thought the presumptions of his earlier analogical reasoning had been entirely confirmed by careful experiment (Ps. Ph., 1860). The 'Atomenlehre,' the 'Ideen zur Schöpfungs-und-Entwickelungsgeschichte' are directly, the 'Collectivmasslehre' indirectly, developments of the Zend-Avesta. Obviously the critic of Fechner must begin with this work. Prof. Wundt rightly makes it the centre of his sympathetic account of Fechner's philosophy. We need not follow him here in detail. Fechner never intended that his system

should be regarded as scientifically proved. He did not regard it as the function of philosophy to assert nothing but what could be strictly demonstrated. On the other hand, he was careful to make no assertions which had not in his view strong analogical probability. Philosophy for him held a middle position between Science and Religion. The whole of experience is its material: Belief no less than Knowledge. It proceeds from the latter to the former by means of Induction and Analogy. The result is the opposition of the 'Tagesansicht' to the 'Nachtansicht'; the picture of a living, sentient, coloured, glowing, loving world, as opposed to the dead dark world—senseless atoms in purposeless motion—of popular materialism. To this, little as Fechner profited by the lessons of Kant, his books provide even to-day the best antidote.

This booklet contains also a photograph of the Fechner Memorial at Leipzig, and several appendices including personal reminiscences and discussions of special points.

F. N. Hales.

Studi sulla Filosofia Contemporanea. I.—*Prolegomeni La "Filosofia Scientifica"*. By Francesco de Sarlo. Roma: Ermanno Lœscher & Co., 1901. Pp. 241.

In the forthcoming studies, to which the present volume is introductory, we shall await with interest any constructive effort Prof. de Sarlo may make towards a philosophic synthesis which shall take up the converging lines of the most general concepts in the special sciences and vindicate his belief that 'una è la scienza come una è la realtà'. These prolegomena are entirely critical. Reconstruction, he holds, is necessary in virtue of the domination of scientific progress over thought, entailing a 'disruption' of speculative scope by its tendency to specialization, and by its 'adoration of the-thing-done,' *fatto*. But 'before his discussions take a properly philosophic line'—so the author prefers to distinguish his forthcoming studies from those before us, which are nothing if not properly philosophical—he wishes to bring out 'such salient features in modern science as are tending to acquire a philosophic aspect and content'. For if philosophers will not bestir themselves to philosophize science, men of science will do it themselves, and that after an amateurish sort, reducing the principles, which they need to give value and import to science, to a popular doctrine which is neither good science nor good philosophy.

And so he takes the 'threefold basis' of what he terms naturalistic agnostic scientific philosophy, *viz.*, the mechanical conception of the universe, the psychophysical value of cognition, and the concept of evolution—and discusses them as they appear, most impressively and characteristically, in the thought of Du Bois Reymond, Helmholtz and Darwin respectively. The book is completed by an essay on contemporary Positivism in Italy.

The author is too genuine a metaphysician to conduct his criticism so sympathetically as to get right through to the standpoint of his *scienziati*, the logic of which governs their conclusions as surely as his own logic guides him to differ from them. While he rejects the agnosticism of Reymond's *ignorabimus*, holding that that which is unknowable is unreal, he meets all advance in scientific analysis with the inexpugnable necessity for postulating, as the creator and interpreter of all experience, an 'ideal' subject. Paley's watch in fact, now lies not on the bosom of the external world, but bedded in conscious experience.

The 'psychological' ego, as an evolved product of consciousness, does not at all satisfy him, and he waves evolution aside as practically devoid of any philosophical value.

It is in precisely its clear statement of the *a priori* position over against the advance of genetic methods in science that the book lies. If ever a way will be found to carry that position which shall satisfy and convert the metaphysician himself, it cannot conceivably be otherwise than through those methods being applied far more rigorously than as yet to the history of the ego. And it is good to have a careful, detailed discussion to show how unassailable is the postulate of an 'ideal' ego as full-grown noumenon.

Such a work should appeal to philosophic students outside Italy, and it is to be regretted that philosophers of that country, mindful of the limited 'circulation' of their language, do not lay themselves out more strenuously to attract and aid the foreign reader. The style in this case is not too involved and. there are some short sentences. The ever recurring double negative—*non puo non*—cumbrous to English ears, but good as eliminative logic, can be got over. But there are absolutely no sign posts to guide as to what departure in argument is coming, neither at the head of sections, numbered meaninglessly, nor over the page. The argument too proceeds discursively, not by definite development. Hence the reading, for foreign inquiries, is rendered needlessly tough. For the very numerous typographical errors the author is fain to appeal to the help of his readers, after filling a page with corrigenda.

C. A. F. Rhys Davids.

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VII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. x., No. 4. **J. Seth.** 'The Utilitarian Estimate of Knowledge.' ["Knowledge is only a part of the complete whole of human possibility." But, within this larger whole, "it is not merely a means to an end beyond itself, it is also an integral part of the end. To assign to it a merely instrumental and subjective value is to negate the essential idea of knowledge, and the logical issue of such a view is scepticism." The ethical significance thus secured for knowledge is social as well as individual in its scope.] **F. J. E. Woodbridge.** 'The Dominant Conception of the Earliest Greek Philosophy.' [Discussion of Heraclitus, Parmenides, Empedocles and Anaxagoras, in the light of the preserved fragments. "The dominant conception of early Greek philosophy seems to be, not a permanent material substance out of which all things are made, but that nature is a process of physiological generation, a succession of births and deaths, of coming into existence and passing out of existence, mediated by some natural principle, as water, or a nameless inexhaustible substance, or air, or fire."] **G. S. Fullerton.** 'The Doctrine of Space and Time. III. The Berkeleian Doctrine of Space.' [The only fundamental error of the Kantian doctrine "lies in supposing that in dealing with any single intuition it is dealing with 'real' space and 'real' things". For the Berkeleian, "the absolute object and its absolute space are not *an* object (intuitive), and *a* space (the 'form' of an intuition), but rather *an indefinite series of substitutions* gathered up and hypostatised into an individual". The real thing, in any but a relative sense, is a possibility of substitutions according to a definite principle; it is not a single intuitive experience of any sort whatever. "If the Berkeleian will admit that 'real' space is infinitely divisible (as it may be), and the Kantian will admit that 'real' space is not given in any intuition (as it certainly is not), there need be no quarrel between them."] **E. Adickes.** 'The Philosophical Literature of Germany in the Years 1899 and 1900.' [History of philosophy; metaphysics and epistemology; ethics.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. Vol. x. No. 5. **C. S. Myers.** 'Naturalism and Idealism.' [Criticism of Ward's *Naturalism and Agnosticism*. (1) Specific criticisms: vacillating attitude to mechanism, erroneous conception of protoplasmic activity, misunderstanding of natural selection. (2) General criticism: the writer keeps a battle raging between teleology and mechanism, spiritualism and agnosticism, until in the end he gives the victory to the former. But "neither the idealism of the teleologists, nor the naturalism of the mechanists, is one whit the more real, the more adequate, or the more true than the other. . . . Each is a creation of consciousness or mind, or whatever term is used to denote that experience which consists merely in a duality of subject and object." Ward assumes that the results of the one half of experience are to be exalted at the expense of the other half. The real is "that unity of states of consciousness which we have called mind or experience."

Monism, "based on unknowable experience, is at once the source and haven of all philosophy"; dualism must suffice for ordinary life.] **F. C. French.** 'The Doctrine of the Twofold Truth.' [Philosophical truth (inferable from Aristotelian principles) and theological truth (harmony with the doctrines of the Church) were at first identified; later, recognised as two, but regarded as easily reconcilable by logic; while, finally, one after another of the doctrines of faith is declared indemonstrable—"the mysteries of faith and the speculations of philosophy form each a separate and distinct system, and we have the twofold truth." The inherent contradiction may be avoided logically (Thomas Aquinas, Locke); or ontologically (Kant); or practically (Kant, James). In spite of these methods of escape, the twofold truth is still with us: witness Münsterberg's *Philosophy and Life*. The sources of Münsterberg's error are certain wrong suppositions regarding the nature of science: the belief that science is necessarily atomistic involves a transformation of reality, and is the product of a subjective purpose.] **G. S. Fullerton.** 'The Doctrine of Space and Time.—IV. Of Time.' [The difficulty as stated by Augustine: "past time is not now, future time is not yet, and present time has no duration". Augustine's reference to psychology (we measure not time but memory and expectation) leaves the problem where he found it. (1) Kant's answer is unsatisfactory: infinite time is not given in original intuition; we are not conscious of time as infinitely divisible: for the Kantian, no division of time whatever can come to an end. We must emphasise with Berkeley the distinction of appearance and reality. We then find (2) that there is a crude intuition of duration, which is the foundation of our notion of 'real' time; that we are thus intuitively conscious of time, as present, past and future; that this time is not infinite; that the time given in a single intuition is not composed of an infinite number of bits of time; that no single intuition of duration constitutes 'real' time. The most serious objection to this position is: how can even crude time "be given in intuition, when time is composed of moments no one of which can alone constitute time, and no two of which can exist simultaneously?" It is sufficiently met if we show that "there is nothing inconceivable in the fact of a consciousness of duration".] Discussion. **W. Smith.** 'Professor Thilly on Interaction'. [Both theories, parallelism and interaction, assume that psychology and physiology represent two departments of knowledge, equally objective and independent. The problem, as thus stated, is antiquated. We have at most three series of facts: (1) the series of the percipient's sensations called the brain of the person observed; (2) the series of conscious experiences in the person observed, which cannot be directly intuited; (3) the forms of substance and energy, entities—like the members of the second series—that are objective and metaphysical. With this critical re-statement, "the mystery of the interaction of mind and brain has disappeared. . . . There is no heterogeneity."] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. No. 6. **G. S. Fullerton.** 'The Doctrine of Space and Time *v.* The Real World in Space and Time.' [(1) Are time and space conceptions or intuitions? "What is given in intuition, in the strict sense of the word, is but a symbol of the real world in space and time. . . . But the world in space and time, the object of our symbol, is an individual, not an abstraction. . . . Since space and time are in this sense individual, Kant applied to them the term 'intuition'." (2) When we contrast 'space and time' with 'the world in space and time' we must not imagine that the world is one thing, and space and time independent entities of another sort. "The real world in space and time is a vast complex of

tactual things standing to each other in certain relations of distance and direction, and passing through a series of changes. The plan or system of its actual and theoretically possible relations and changes is what we mean by space and time." All three are intuitions, in the sense that they are individual ; but the last two are abstracted from the first.] **H. W. Wright.** 'The Truth in Ascetic Theories of Morality.' ["The implications of self-consciousness justify us in maintaining that there are in man two selves struggling for the mastery in the form of two opposing tendencies, the one that of natural individuality which would turn all to purposes of individual satisfaction, the other that of self-determining personality whereby the individual is led to make the good of others an end of action, and to identify himself with a social order in which all humanity is united in the realisation of a common good." Plato erred in making these tendencies mere psychological abstractions, reason and sensibility ; the naturalists err in neglecting the opposition altogether ; Kant and Fichte err in overestimating discipline and negation. The true end of morality is a "synthesis of ideal and real".] **J. D. Stoops.** 'The Concept of the Self.' [Consciousness has five stages. We have (1) instinctive or immediate consciousness, pure sense experience ; consciousness is the sensation itself. Next comes (2) impulsive or ideal consciousness, or simple perception, the laying hold upon quality ; here we find consciousness of the sensation. (3) Ideomotor consciousness, or ideation, "sees this quality in such a system of relationships as to constitute it an aspect of an object of thought". (4) "The coming of the idea . . . is the ushering in of a dualism, the dualism of subject and object. . . . It gives us the negative aspect of self-consciousness, the mere awareness of self" ; "there is consciousness of the object as revealed through the idea as an 'other' over against the subject". This is the self-consciousness of Buddhism. (5) But "the idea as a universal belongs to both subjective act and objective or ideal meaning" ; in positive or Christian self-consciousness, "the subject is conscious of the object as content of the individuating idea".] **S. F. MacLennan.** 'Trans-subjective Realism and "Hegelianism".' [Reply to Rogers. (1) Trans-subjective realism "draws a circle about 'fact'". But fact is existence *plus* content ; and only existence is given. Whatever about 'fact' is significant is fluent. Moreover, the theory must in consistency make perception a matter of intuitive knowledge, and conception an affair of later reflective construction. (2) For the Hegelian, "indeterminate 'existence' is . . . the presupposition and datum of knowledge. . . . Reality emerges as the determinate existence implicit and immanent in all indeterminate existence. Knowledge is the function in and through which this determinateness is revealed."] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. [Discussion between Münsterberg and Stratton.]

Psychological Review. Vol. viii., No. 4. **F. H. Giddings.** 'A Provisional Distribution of the Population of the United States into Psychological Classes.' [If we group mental phenomena under the three headings of motor, emotional and intellective, we have the six temperamental possibilities: Mei, Emi, Ime, Mie, Eim, Iem. Of these, Mei and Emi are found only in animals, human infants, and defectives. The four normal types remain, and may be particularised under the rubrics promptness of reaction, continuity of activity, kind of movement, degree of emotion, temperament, formation of belief or judgment, mode of reasoning, disposition, character. Mie may be termed the ideo-motor; Eim the ideo-emotional; Iem the dogmatic emotional; and Ime the critical intellectual type. Examination by nationalities

and religions, checked by preference for classes of books, shows that "the mental 'mode' of the American people as a whole is ideo-emotional to dogmatic emotional".] **R. S. Woodworth.** 'On the Voluntary Control of the Force of Movement'. ["The regulation of the force of movement, at least in the case of a blow, is not simply a derivative function, dependent on regulation of the extent. Nor is it dependent on the duration of the movement. . . . And if the regulation of force is an independent function, so is also the perception of the force of movement, since the control of the force of any one blow is based on the perception of the preceding blow. The muscle sense informs us of the force of a movement directly," *i.e.*, the various constituent sensations functionate unitarily.] **W. M. Urban.** 'The Problem of a "Logic of the Emotions" and "Affective Memory".'—II. [The question of the affective memory is not whether the affective elements, pleasantness and unpleasantness, can be revived as such, but rather: "Can an affective state become the presupposition of another affective state, that is, the mood of recognition? Is feeling, emotion, capable of becoming a presupposition of a judgment-feeling of familiarity?" This latter question must be answered affirmatively. Recognition of affective states rests "not upon the definite quality of the ideal or organic elements, but rather upon the dynamic relations of the elements of the emotional states; and this revivability goes back ultimately to the dynamic relation to volition". Critique of Ribot and Marshall. "When æsthetic theory, in its psychological analysis, shall have made clear the processes and the reasons for the processes which underlie the passage of the attention from the object to the complex of relationships which constitute the organic reaction to the object, the most difficult question of æsthetics will be solved."] **M. V. O'Shea.** 'The Psychology of Number: a Genetic View'. [The 'Symbolic' *versus* the 'practical' teaching of arithmetic. The genesis of the number idea in the child's mind—a sketch based on the work of McLellan and Dewey. Criticism of these authors' analysis of the psychology of counting. The appeal to 'correlative differentiation and identification' and to the synthesis of units is too logical; the child's pleasure in counting is, *e.g.*, due in large part to the pleasure of being able to do something that others can do.] **E. L. Thorndike** and **R. S. Woodworth.** 'The Influence of Improvement in One Mental Function upon the Efficiency of Other Functions. II. The Estimation of Magnitudes'. [Summary of experiments, the general conclusion of which was given in the first paper.] **C. L. Franklin.** 'Colour Introspection on the Part of the Eskimo.' [The four rectilineal colour series, in the light of Rivers' account of the colour vision of the Eskimo. Helmholtz' theory, of the physical colour triangle, ignores the psychological colour square; Hering's theory, of the psychological colour square, ignores the physical colour triangle.] Psychological Literature. New Books. Notes. Vol. viii., No. 5. **J. R. Angell** and **W. Fite.** 'Contributions from the Psychological Laboratory of the University of Chicago. (1) Further Observations on the Monaural Localisation of Sound.' [Continuation of study published in *Review*, viii., 3, bringing out especially "the variations in monaural localisation which are connected with the duration of deafness". The experiments serve to reconcile the conflicting statements about monaural localisation made by aurists, and suggest the possibility and desirability of training for persons who have lost their hearing in one ear. The improvement noted "is attributable merely to systematic direction of attention to the peculiarities of sounds coming from different directions". To this should be added visual knowledge of the position of the stimulus. The discipline suggested is

"comparable with the ocular gymnastics prescribed to persons suffering from defects of the oculomotor mechanism".] '(2) New Apparatus.' [Describes a multiple contact key; a platform for tuning-fork and marker; an apparatus for determining the impact limen; a standard for adjusting a common form of the registering tambour to the surface of the drum, in plethysmographic work; an adjustable form of the Hallion and Comte plethysmograph; and a thermal apparatus. All are useful instruments. **C. L. Morgan.** 'Further Remarks on the Relation of Stimulus to Sensation in Visual Impressions.' [Ten notes of detail, suggested by Meyer's critique in the *Amer. Journal*, 1900, 135.] **J. H. Bair.** 'Development of Voluntary Control.' [A study of the acquisition of voluntary control over the retrahens of the ear. Description of a 'registration helmet' whereby a record of ear movements could be obtained. Graphic representation of results in three stages: (1) before voluntary control is acquired; (2) when control is just beginning to appear; (3) when the maximum of contraction is attained, without innervation of the brow or contraction of irrelevant muscles. Conclusions: more than the idea of movement is required to secure movement; the muscle must first be controlled in a group, if it is to be controlled in isolation; control is favoured by direction of attention to the desired movement and away from other movements. Interpretation of results, on the assumptions that the 'original motor discharge' hypothesis and the hedonic concept are correct, and that the race is (and for many generations has been) exposed to a constant or but slightly changing environment.] Psychological Literature. New Books. Notes. No. 6. **E. L. Thorndike** and **R. S. Woodworth.** 'The Influence of Improvement in One Mental Function upon the Efficiency of Other Functions.— III. Functions Involving Attention, Observation and Discrimination.' ["Improvement in the function of observing and marking words containing *s* and *e* is not equivalent to improvement in the group-function of observing the make-up of words. Neither the speed nor the accuracy acquired in the training is a general power equally applicable to other data." Brief report of similar experiments, giving like results; hints for further work.] **E. A. Kirkpatrick.** 'A Genetic View of Space Perception.' [Space perception is the results from (and aids towards) useful reactions upon surroundings. The earliest space reactions are those that result in increasing favourable (or decreasing unfavourable) stimuli; the chief centre of reference is the region of the mouth. Consciousness of space relations is the consequence of space reactions; ideas of direction, magnitude, distance, are gradually formed by the manipulation and comparison of objects; distance, *e.g.*, is not at first distinguished from other causes of varying clearness of perception. The child is a space-reacting organism at (and probably before) birth.] **W. H. Sheldon.** 'A Case of Mental Causation.' ["The thing to be shown is that there is some one mental state which, if entertained, brings up other mental states, and brings them up in such a way that a real necessity is seen for their appearance." The mental state used for illustration is the idea of *more*, and the following states are the ideas used in elementary arithmetic. (1) *More* involves the ideas of size and of movement. But to have an idea of something that increases is to tend toward consciousness of a series of increments. And this idea of 'more and more' suggests a relationship between the increments. It is then natural to seek to discover the character of the relation. So we are led to the ideas of (*a*) sameness, and (*b*) difference. (2) There are three conditions of necessary connexion: the character of the second event must, in the last analysis, be the same as that of the first; there must be a change,—the

second must be a distinct event; and there must be a movement, a process of continuous flow, in the antecedent, such that it gradually becomes the consequent. All these conditions are fulfilled in the case of the idea of *more*. (3) Let us then proceed with the ideas of number and quantity to which *more* naturally leads. We have (*c*) position in the series, "that in which the repeated increments in a more-series differ". (*d*) Magnitude, "that in which the differently placed increments in the more-series are the same". (*e*) Later and earlier, "as describing *more* and as comparing it with its own part, that which is *less*". (*f*) Equality; "we have a series of equal sizes, which series increases as new members are added". (*g*) "The finite number series becomes an infinite number series." This movement is a psychical causation.] **E. B. Potwin.** 'Study of Early Memories.' [Classification of and comment upon the earliest memories of college students,—seventy-five women and twenty-five men.] Discussion and Reports. **J. M. Gillette.** 'The Relation of Emotion to Mathematical Belief.' [Beliefs should be graded not by age alone, but by their ability to prove their clearness to men by their emotional colouring. We then have (*a*) belief in the right to live; (*b*) that in the right to means of subsistence; (*c*) genetic beliefs; (*d*) religious, ethical, governmental, legal, scientific beliefs. Mathematics is aloof and apart from the burning interests of mankind; its truths seem to be mere instruments to use in connexion with affairs. They are thus less capable of producing emotional effects, upon the mass of the people at least, than are scientific tenets.] **R. Hessler.** 'Redreaming dreams.' [Instances of repeated dreams under the influence of salol.] Psychological Literature. New Books. Indexes.

American Journal of Psychology. Vol. xii. No. 3. **R. M. Ogden.** 'A Method of Mapping Retinal Circulation by Projection.' [Projection, with and without blue glasses, upon a white translucent screen. Satisfactory maps were obtained from various observers, in the region about the *macula*. Criticism of Helmholtz and Boisser: the regular phenomena are due, not to stoppages, but to chance spaces between corpuscles or bundles of corpuscles in the normal flux; stoppages are manifested in brief, jerky flashes. The bright interspaces are preceded or followed by shadows of collections of corpuscles.] **E. B. Huey.** 'On the Psychology and Physiology of Reading.—II.' [(1) "The eye gets its data by a process of photographing successive sections of each line, the photographs overlapping constantly, and being taken at quite irregular distances." With all line lengths, the eye moves oftener than is necessary to bring the printed matter within the range of clear vision. The average number of words per fixation ranges from 1·5 to 3·63, being greater with short lines. (2) The rate of reading varies with individuals, with subject matter, and with conditions. Test with silent reading (subject's own method), auditory reading, motor (lips closed and lips moving), and reading aloud. The average normal rates (number of words per second) for twenty subjects are: 5·63, 5·12, 5·29, 4·88 and 3·55. (3) Perception of reading units and interpretative processes. There are, in reading, "two sets of processes, somewhat independent and paralleling each other: a reading in terms of interassociated word and phrase units (themselves composed of interassociated sub-units), thought in a variously proportioned combination of visual, auditory and motor elements; and a reading (or interpretation) in terms of direct representations of the realities with which the subject matter deals". (4) Practical suggestions: "the arrangement that is finally found to be the best for ordinary reading will, I believe, facilitate skimming as well".] Studies from the Psychological Laboratory of the University of Michigan.—I. **J. W. Slaughter.** 'The

Fluctuations of the Attention in Some of Their Psychological Relations.' [The fluctuations depend neither upon the apperceptive process nor upon peripheral changes; they are closely related to vasomotor and respiratory processes. The periods are not constant, but evince a regular order of variation; voluntary effort shortens fluctuation and increases efficiency of attention. The cause is physiological, probably "a reinforcement of the activity of the nerve cell, not indirectly through changes in nourishment, due to variations in blood pressure".] II. **R. W. Taylor.** 'The Effect of Certain Stimuli upon the Attention Wave.' [The length of the waves and the efficiency of attention are increased by weak, decreased by strong stimuli. Many changes of attention occur during (or just after) inspiration. The waves are due to overflow effects from the vasomotor and respiratory centres upon the cortical centres.] III. **W. B. Pillsbury.** 'Does the Sensation of Movement Originate in the Joint?' [The sensitivity of elbow and knee is decreased by the faradisation of distal joints (wrist and ankle) as well as by currents through the joints themselves. "This fact, together with the lack of anatomical evidence that the joints have sensory endings, makes it probable that the sensation of movement is derived mainly from the tendon and muscle rather than, as Goldscheider thought, from the joint."] **N. Triplett.** 'The Educability of the Perch.' [Modified repetition, with perch and minnows, of Moebius' experiment. The experiment was successful: the perch clearly formed "a firm association" with regard to the glass partition; Bateson's statements of the slowness with which fish profit by experience must therefore be modified. Remarks on hearing *v.* sense of jar, keenness of vision, imitation, discrimination.] **N. Triplett** and **E. C. Sanford.** 'Studies of Rhythm and Metre.' [(1) The stanza forms of Nursery Rhymes. Most frequent is the stanza of four lines of four stresses each; frequent is also that of two four-stress (first and third) and two three-stress (second and fourth) lines; after these comes the stanza of three three-stress lines (first, second, fourth) and one four-stress line (third). The pattern dominates the syllables. (2) Experimental study of rhythms. There is a general uniformity in the intervals between stresses, though there is also a tendency to quicken in rate from first to last. The characteristic movement of the commonest patterns depends on the distribution of pauses and (perhaps) on the tendency to quicken. Imperfectly worded rhymes are forced by school children into one or other of the common patterns. (3) College yells: the same metrical patterns recur, but in strikingly different proportions. (4) Some common rhythms (bugle calls, train beats) and the words that have been fitted to them.] Literature. The MIND Association. Correspondence. Books Received.

PROCEEDINGS OF THE ARISTOTELIAN SOCIETY. New Series, vol. i. **G. F. Stout.** 'The Common-sense Conception of a Material Thing.' [A detailed analysis of the conception of things as static and as subject to change, with the result incidentally of showing omissions and mistakes in the views of J. S. Mill and Kant.] **E. C. Benecke.** 'On the Aspect Theory of the Relation of Mind to Body.' [Every process in which the neuro-cerebral system is concerned has two aspects, and it is according to the aspect which it presents to the Conscious Subject that it forms part of that Subject's physical or psychical series.] **S. H. Hodgson.** 'The Conceptions of Cause and Real Condition.' [The conception of Real Condition is a reformed and restricted form of the materialistic conception of efficient Cause. Real Conditions are the *sine quâ non* of our conscious experience but cannot account for its *qualia*. This leaves room in the universe for infinite varieties of

conscious quality.] **E. H. Donkin.** 'On some of the Phenomena of poetic effectiveness.' [An analysis of the writer's personal feeling of satisfaction in the concluding lines of one of Tennyson's poems, tending to show that poetic effects may be roughly classified as (1) positive in negative; (2) unity in variety.] **H. Sturt.** 'Art and Personality.' [The artistic interest is an interest in personal life. It is separate in its quality and objects from our other higher interests. Its value is posited by a personal affirmation.] **S. H. Hodgson.** 'The Substance-Attribute Conception in Philosophy.' [The substance-attribute conception is erroneous. The conception of Real Condition should be substituted for that of Substance.] **G. E. Moore.** 'Identity.' [Numerical difference exists as well as conceptual difference. There is no conceptual difference without numerical difference. Numerical difference can exist apart from conceptual difference.] **J. Lindsay.** 'Italian Philosophy in the nineteenth century, with special reference to the place of Francesco Bonatelli.' [A critical and historical appreciation.] **A. Boutwood.** 'A Scientific Monism.' [A criticism of the monistic views of Prof. Ernst Haeckel.] **Miss E. E. C. Jones.** 'The Meaning of Sameness.' [A criticism of the views of Drs. B. Bosanquet and G. E. Moore on identity.] **A. J. Finberg.** 'The Pseudo-Science of Æsthetics.' [An attack on Prof. Bain's theory of beauty, and a plea for the adoption of the comparative method in the scientific study of art.] **H. W. Carr.** 'The Theory of Subjective Activity.' [An adverse criticism of Prof. J. Ward's theory of Subjective Activity as the basis of a spiritualistic monism. The theory can neither dispense with matter as the cause of sensation; nor can it explain the mode of our activity.] **G. D. Hicks.** 'The Belief in External Realities.' [The source of our apprehension of external realities lies in feeling. Volitional experience elaborates, but does not, as Dr. Stout holds, originate this primordial apprehension.] **S. H. Hodgson.** 'The Conscious Being.' [The conscious being is not a datum, but a false construction; the datum is consciousness. The continuous real condition of consciousness is not mind or ego, but neuro-cerebral matter.] Abstract of minutes, etc.

International Journal of Ethics. Vol. xii., No. 1. **J. S. Mackenzie.** 'The Use of Moral Ideas in Politics.' [There is serious difficulty in keeping to a high moral standard in politics. Yet we cannot regard politics and morality as separate spheres. It will help to reconciliation if we remember (*a*) that personal morality is mainly self-realisation; (*b*) that the moral problems of politics cannot be solved quite in the same way as those of persons.] **T. Davidson.** 'The Task of the Twentieth Century.' [It is to combat those reactionary tendencies of the nineteenth century which militated against freedom. We need a rejuvenated philosophy which recognises desire as the primal fact, together with a great diffusion of education and of economic welfare. We also need a band of self-sacrificing apostles.] **J. A. Hobson.** 'Socialistic Imperialism.' [A refutation of certain socialistic arguments in favour of the South African War, (*a*) that the Boers neglected to develop their country; (*b*) that the law of modern industries (and so of empires) is for the larger to absorb the smaller.] **C. S. Devas.** 'Monopolies and Fair Dealing.' [The rapid growth of monopolies has altered the conditions of industry. Political economists must (*a*) revise the old theories; (*b*) estimate the power and effects of combination; (*c*) advise on measures to curb the abuses of monopolies.] **Eliza Ritchie.** 'Women and the Intellectual Virtues.' [A plea for the better education of women on the ground that they have invaded the spheres of political and industrial

activity, and that their emotional temperament will work mischief unless they are trained in the intellectual virtues.] **G. E. Moore.** 'The Value of Religion.' [An argument to show that religion is valueless. There is nothing to show that God exists, the ordinary 'proofs' being fallacious. Granted that religion is a delusion, there is nothing to show that it is a serviceable delusion.] **A. L. Benedict.** 'Has the Indian been misjudged? A study of Indian character.' [A vindication of the North American Indians from charges of cruelty, immorality, etc.] Discussions. 'A further reply to Mr. J. M. Robertson,' by **D. G. Ritchie.** 'Human Sentiment with regard to a future life,' by **F. C. S. Schiller.** Book Reviews.

L'Année Psychologique. Septième Année, 1901. The volume contains twenty-four *mêmoires originaux* chiefly by MM. Bouvier, Féré, Binet and Simon. Many of these, however, deal with subjects which belong rather to general anthropology, or to zoology, than to psychology proper. **E.-L. Bouvier.** 'Les habitudes des Bembex.' [A purely natural-history article on the habits of this group of the genus *sphex*, based largely on the well-known works of Fabre and of Dr. and Mrs. Peckham, but showing considerable use of the researches of other observers as well as of the author himself. It is not specially interesting to the psychological student.] **Ch. Féré.** 'Les variations de l'excitabilité dans la fatigue.' [This and the two next memoirs all deal with records of effect of stimulation on work done by muscular effort. The results are not startling. They show that all excitation, whether pleasurable or painful, brings about some additional output of work, but not much.] A fourth memoir by **Ch. Féré**, 'L'excitabilité comparée des hémisphères,' is an experimental study on the excitability of the right and left sides of the brain. **J. Clavière.** 'Le travail intellectuel.' [Experiments show that intense intellectual work is followed by a considerable diminution of muscular power, as measured by the dynamometer; slight intellectual work is followed by no diminution; intellectual work is never followed by increase of muscular power. More important than these results is the preliminary remark, *viz.*, that it is indispensable to employ only subjects trained to the use of the dynamometer.] **A. Binet.** 'Un nouvel esthésiomètre.' [Description of a much more elaborate instrument than Weber's blunted compasses to secure simultaneous application of the points, equality of pressure and other more or less important conditions. Followed by a short paper on the technique of this branch of research.] **Ed. Claparède.** 'Sensations spécifiques de position des membres.' [A defence of the doctrine that the perceptions of position are complex, and involve visual or tactual factors, with some reference to the recent work of M. Bonnier, *L'Orientation.*] **J. Laureys.** 'Comment l'œil et la main nous renseignent différemment sur le volume des corps.' [The results of a series of experiments undertaken for somewhat the same purpose as those of Dr. Ley (*Journal de Neurologie*, 20 août, 1900), *viz.*, to settle the question, Which sense gives us the most accurate information as to the volume of bodies? Cubes were employed, and the subjects were required to identify the cube which had one-eighth of the volume of a given standard cube. The experiments were not sufficiently numerous to give numerical results of any importance, but they seem to show that sight gives us the more precise measure of volume, and that the estimate based on touch sensations is far less accurate. The author does not appear to have noticed that the estimates were, roughly speaking, good or bad in the same person for *both* kinds of perception.] **J. Larguier des Bancels.** 'De l'estimation des surfaces colorées.' [The experiments of Pierce (*Psychical Review*, 1894), and of

Quantz (*American Journal of Psychology*, 1895), have shown that colour has an important influence on our estimation of surfaces. The present paper records some experiments which illustrate the effect of colour in connexion with the well-known illusion of Poggendorf's diagram. If the rectangle be coloured the illusion is changed in degree, the amount of displacement varying according to the colour. The results have considerable agreement with those of the two American experimentalists, and are of distinct interest. Our estimates of extension are clearly in some degree dependent on the colour of the extended surface.] **De Moor and Daniel.** 'Les enfants anormaux à Bruxelles.' [Some account of the pupils in the communal schools for abnormal children.] **A. Binet** gives us five closely connected papers on the cephalometry of children, followed by one on the same subject by Dr. Simon. In these (nearly) 200 pages there is not very much of direct psychological interest except Dr. Binet's confessions (pp. 324 *et seq.*) of the effect of auto-suggestion on his measurements. **Simon.** 'Expériences de copie : essai d'application à l'examen des enfants arriérés.' [Continuation of the observations of Dr. Binet in the sixth volume of *L'Année Psychologique*, the subjects being taken from the schools for backward children at Vaucluse. The number of digits or words copied on an average in each act of copying, the number of mistakes made, the time taken. Dr. Simon was very favourably impressed with the value of the act of copying a phrase as a method of testing intellectual development.] **A. Binet.** 'L'observateur et l'imaginatif.' [The distinction between these two types of mind is a very important one and runs through most of the intellectual processes.] **A. Binet.** 'Un nouvel appareil pour la mesure de la suggestibilité.' **Simon.** 'L'interprétation des sensations tactiles chez les enfants arriérés.' [Results of a series of experiments (made in 1900) on children of about thirteen years of age—all more or less backward, some being idiots, others only mentally weak. The object was to detect the capacity for discriminating double-contacts ; the method employed was that of using little boards pierced at right angles with points, the method usually employed by Dr. Binet and frequently described. As a rule the accuracy of interpretation of the tactile sensations bore a distinct relation to the intelligence of the subject.] The original articles occupy about 560 pages ; about 140 pages more are devoted to bibliographical analyses, or brief *résumés* of important books and papers in French, German, English and other languages. And there is a bibliographical list running to about 130 pages and including books and articles in all the principal languages, published in 1899-1900.

Revue de Métaphysique et de Morale. 9e Année, No. 3. Mai., 1901. **G. Sorel.** 'La valeur sociale de l'art.' ['Questions relative to Æsthetics' are A. What is the causal relation between an artist's work (as effect) and the state of society in which he lives? B. What specific emotions do works of art excite? On these two questions no certain results have been obtained. M. Sorel will deal with C. 'What effect does art produce on society?' and he seems to identify this both with 'What effect ought it to produce?' and with 'What is a work of art?' Most people, he says, are agreed that the artist 'has no claim to our admiration, if he propagates error'(!); and it is equally obvious that he has none if he 'neglects morality'. After this short preface the article consists of a loose string of interesting observations and criticisms ; and the conclusion seems to be that the 'Fine Arts,' which are 'games' and merely 'amuse the idle,' are losing (and rightly) their importance, and that, in view of the increasing occupation of modern societies with

'work,' only those arts are surviving and ought to survive which (*a*) most effectually relieve from intellectual strain; (*b*) beautify the commonest instruments of production in such a plain way as will point out to the workman who uses them the 'spirituality' of his work, and so make him love it.] **E. Chartier.** 'Sur les perceptions du toucher.' [Pretends to describe the main steps of the process by which a man, who had only the sense of touch, would 'acquire the notions' of 'distance,' 'direction' and 'resistance': he must have acquired the first before he can acquire the second, and the second before the third. The first requires not only a *knowledge of the relation* between the sensations (whatever they may be) produced by his own bodily motions and the sensations (chiefly of heat and cold) produced by objects, but also the idea of *moving voluntarily* from one such object to another; indeed, 'the idea of distance *is never anything but* the representation' of the movement necessary to obtain a desired perception. M. Chartier here identifies the *sensations produced by* our own bodily motions with the *perception of those motions;* and a mass of mistakes even more childish render his other speculations even more useless. But he is anxious, we find, to teach 'philosophers' that 'every question of origin throws us into a circle': 'to know one's own body, one must perceive, while to perceive, one must already know one's own body'. Thus 'resistance' is '*de facto* a primitive and immediate perception,' but he has shown that *de jure* it is not so; and, similarly, of all perceptions, it is obvious that a 'purely qualitative difference' can be nothing but an 'agreeable or disagreeable modification,' and that what 'philosophers' take to be a 'simple and primitive impression' is in every case 'an idea, itself composed of ideas': in fact 'every idea' both *is* and presupposes 'all ideas'.] **E. Le Roy.** 'Sur quelques objections adressées à la nouvelle philosophie.' ['Questions of Method': (1) 'The postulate of Intellectualism' has been generally admitted hitherto; the N. P. rejects it. Both agree that there exists 'in the spirit' not only a luminous centre 'fully lighted by the brightness of reflection,' but also an immensely larger mass of surrounding shade called 'action and life'; both aim at 'increasing the region of light': they *only* disagree about the *means* of effecting this increase; for Intellectualism refuses to 'subordinate what is clear and conscious to what is not so,' whereas the N. P. maintains that the shady region 'plays the essential part' in 'discovery': they *agree*, therefore, (*sic*) about the *means* of creating more light, and the Intellectualist mistake consists in ascribing to 'the obscure' a purely practical *rôle* and in denying that it is *itself* 'knowledge'! (2) The N. P. is 'precisely opposed' to Intellectualism by maintaining that 'the real' may be 'lived,' even if it is inconceivable for 'abstract thought'. The 'brilliant light of discursive thought' is always *second in value* to 'the obscure action which gives knowledge its *only* value'. '*No* opinion is false'; but the author says that his own thesis would be *proved to be false*, by the mere fact of his success (if that were possible) in defining its meaning. The test of truth is 'durability'; *everything* can acquire durability; and there are *some* things to which we *ought* to give it. (3) The N. P. is not sceptical, although it maintains that 'the precision and necessity of science are in inverse proportion to its truth and objectivity': on the contrary the Intellectualist cannot deny 'the positive results of the new criticism,' which are that the necessary is 'arbitrary' and 'conventional,' and hence, in maintaining science to be both necessary and true, becomes a 'nominalist' and contradicts himself—a scepticism which the N. P. avoids by 'entering the paths of lived contingence'.] Études Critiques, Discussions, Questions Pratiques, etc.

Revue Néo-Scolastique. No. 28. **T. Halleux** ('L'hypothèse evolutionniste en Morale') continues his expositions of Mr. Spencer's views as to the relation of evolution and morality, and finally sums up these views as follows: (1) Conduct is the sum total of the actions of man or brute which tend to the preservation or development of life. (2) Conduct follows an evolution parallel to that of structure or function. It appears more and more complex and efficacious as one rises higher in the hierarchy of things. (3) Efficacious conduct may be regarded as good only on the supposition that life is more productive of pleasure than of suffering. (4) Conduct presents various aspects, physical, psychological, biological and sociological. Under whichever of these aspects it may be regarded, it is always seen to be subject to the same law of evolution. (5) Seeing that it is favourable to the development of life, the evolution of conduct must eventually bring about the realisation of a perfect social state characterised by the completest possible expression of altruistic sentiments and the harmony of all individual interests. **A. Thiéry** ('Le Tonal de la Parole') returning to the subject commenced by him in the previous number, treats of musical æsthetic and technique as applied to the study of the tonal in the speaking voice. He compares together the musical technique and æsthetic as understood by ancient and modern writers. He distinguishes between what is essential to spoken language and what belongs to its perfection. He maintains that melody belongs to the perfection of spoken language, and argues that pleasure and displeasure are produced in us by the same causes whether the voice be used in song or in speech. **D. Mercier** ('L'induction Scientifique') replies to the criticisms of M. Bersani on his exposition of the inductive process, and contends that his critic, through his confusion of an actual whole with a universal law, has failed to distinguish between complete and scientific induction. Complete induction leads to collective groupings, to actual wholes. On the other hand, induction properly so-called, the fruitful instrument of the experimental sciences, leads to universal law, that is to say to laws whose extension is potentially indefinite. M. Bersani has shown that he confuses the two kinds of induction by describing the conclusions of both complete and scientific induction by the same ambiguous term *universal whole*. The conclusion of a complete induction is a *whole*. The conclusion of scientific induction is a *universal*. The description universal whole applied to the two processes is therefore ambiguous because complex, and necessarily complex because ambiguous.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xxvii., Heft 1 und 2. **C. Hess.** 'Zur Kenntniss des Ablaufes der Erregung im Sehorgan.' [(1) Description of experiment with interrupted orange strip; coloured figure of the after-image. "A part of the retina which has not been affected by any light stimulus is able, $\frac{1}{4}$ to $\frac{1}{2}$ second after excitation of neighbouring parts by moderately bright light, to mediate a light sensation of considerable brightness and duration:" this happens, then, at a time when, according to von Kries, the excitatory process has wholly rung off. (2) Criticism of von Kries, with partial restatement of the author's views and observations as published in the *Arch. f. Ophthalm.*] **R. Saxinger.** 'Ueber den Einfluss der Gefühle auf die Vorstellungsbewegung.' [(1) Ehrenfels' Law of Relative Furtherance of Happiness does not hold on the side of unpleasant feelings. The persistence in consciousness of unpleasant ideas is due not to the vividness of the ideas themselves or to 'secondary influences,' but to the actual feelings. (2) Melancholia can be explained as due to the alteration of

affective disposition by feelings: Ehrenfels' Law is unnecessary. (3) Affectively toned ideas not only persist, but frequently 'crop up' in consciousness. Ehrenfels explains the cropping-up as due simply to habituation and fatigue. But there can be no doubt that it depends upon actual feelings, pleasant or unpleasant. (4) How do feelings affect the movement of ideas? The persistence and cropping-up of ideas are two modes of manifestation of one and the same disposition. If, now, "in cases where certain feelings come into play, the ideas crop up more frequently without associative instigation and persist in consciousness for a longer time than in cases where the feelings are absent or too weak to exert a noticeable influence, the only explanation is that the ideational dispositions concerned have been strengthened by the operation of feeling".] **M. Lobsien.** 'Experimentelle Untersuchungen über die Gedächtnissentwickelung bei Schulkindern.' [Report of eight series of experiments upon 238 boys and 224 girls, from nine to fourteen and a half years of age. The investigation is in many ways analogous to that of Netschajeff (*Zeits.*, xxiv., 321). The results are shown in a profusion of curves and tables, and cannot well be summarised. The stimuli were seen objects, noises, spoken numbers, words arousing visual ideas, words for auditory, tactual and affective ideas, meaningless sounds. The range of memory for affective ideas and numbers increases most, that for noises increases least, with increase of age. The total increase of memory is somewhat greater for girls than for boys. On the formal side, *i.e.*, as regards accuracy of serial reproduction, the girls are also ahead. The memory of seen objects is the most accurate, both for boys and for girls. Range of memory and accuracy of serial reproduction increase together, though not in direct proportion.] **W. Sternberg.** 'Geschmacksempfindung eines Anencephalus.' [Tests on a female anencephalic infant. A sweet stimulus induced sucking movements and the reflex movements of the 'sweet' expression; bitter, sour and salt stimuli evoked movements of repulsion, and the corresponding facial expressions.] **F. Kiesow** und **R. Hahn.** 'Ueber Geschmacksempfindungen im Kehlkopf.' [Historical summary; repetition and extension of Michelson's experiments. The beakers on the posterior surface of the epiglottis and in the interior of the larynx are alike sensitive to taste. We have in them instances of phylogenetic 'survival,' retained possibly on account of their relation to the reflex mechanism.] Literaturbericht.

Philosophische Studien. Bd. xvii., Heft 3. **W. Wirth.** 'Der Fechner-Helmholtz'sche Satz über negative Nachbilder und seine Analogien.—II. Die Veränderungen der Farbenerregbarkeit.' [This second instalment occupies 120 pages, a large part of which is taken up with details of experiments, tables, curves, etc. Hence summary is hardly possible. (1) Introduction: preliminary and theoretical sketch of the whole inquiry, taking account of the three visual dimensions of brightness, colour tone and saturation. (2) The principal experimental groups, and the method in general: indication of possible experiments with the Marbe apparatus. (3) The method of experimentation in detail. (4) Results: fixation of the colour by the side of a grey (or complementary colour) of the same brightness. (5) Variation of extent. (6) Course (*Rückgang*) of the colour after-image upon different colour surfaces. (7) Combination of brightness after-image and colour after-image. (8) Variation of the reacting brightness for approximately pure colour after-images. (9) Variation of the brightness relations of the fixated colours. (10) Summary. "The Fechner-Helmholtz law may be made to cover the form which the values of colour after-images assume for any mode of variation of the reacting colour stimuli, provided that the meaning of

'change of excitability' (the fundamental concept of the whole law, as opposed to the 'positive' after-image effect) be taken broadly enough." Whether the facts can be explained in terms of fatigue and recovery, *plus* the intermixture of positively complementary effects in Hering's sense, or whether the notion of change of excitability must be generalised as "a proportional shift of excitation in a determinate direction for the whole colour system," the author leaves undecided, inclining towards the latter alternative. The simplest stimulus variation (increase of intensity) gave for all colours tested the simplest functional relation in the sense of the law, *cf.* the increase of brightness in the brightness after-image. Variation of the reacting degrees of saturation, with equal degree of intensity, gave results which can also be subsumed to the law, after reduction of the mixtures to their different colour components. The negative after-image thus documents itself as a relatively peripheral process. All colour excitations must be conceived of as analogous to the positive brightness excitation.] **G. Melati.** 'Ueber binaurales Hören.' [The intensity of tones heard binaurally is slightly increased with the least intervals, if anything weakened with large intervals. With small intervals, the tones make the impression of more widely extended localisation. Fusion degree is much reduced by binaural hearing, and quickly decreases with increasing difference of pitch. Beats: (1) binaural beats are much less clear than uniaural; they attain their greatest clearness with a pitch difference of ten to twenty vs.; (2) the idea of the beats, on the contrary, is clearer, separate from that of the tones, and differently localised; (3) the beats are undulatory, not (as uniaural beats), sharply demarcated; (4) binaural beats are weaker, the maximum of intensity is found with least intervals (1-2-4-8); (5) the limit of their perceptibility is lower (fifty vs. in the once-accented octave); (6) while the tones are continuous, the beats evince two kinds of oscillation: periods of rise and fall in a complete rhythmical unit, and oscillations in the elements of the rhythm; the latter are more noticeable in slow rhythms. Harshness is less pronounced; it disappears with intervals of over thirty vs. Dissonance remains, though weaker, even in cases where harshness is not remarked. When the two tones are liminal they are heard alternately, and there is no binaural beating: the feeling of dissonance persists.] **K. Marbe.** 'Berichtigung.' [Defence of the author's *Naturphilosophische Untersuchungen zur Wahrscheinlichkeitslehre* against the criticism of Lipps (vol. xvii., 116 f.).]

Zeitschrift für Philosophie und Philosophische Kritik. Bd. cxviii., Heft 1. **J. Volkelt.** 'Beiträge zur Analyse des Bewusstseins.' [The present paper, which is the second of a series, deals with the certainty of memory. In recalling our past experiences we feel an intuitive certainty of their actual occurrence whereby consciousness transcends itself, comparable to the certainty given in our intuition of an external world which involves a like self-transcendence. So far Memory is a simple and ultimate fact of consciousness. But the feeling experienced when we recognise objects as familiar admits of analysis into three distinct elements: (1) the feeling of confidence in the general power of memory; (2) the feeling of our capacity to realise at pleasure the whole significance to ourselves of the familiar object; (3) the feeling of likeness between the successive perceptions of the object. Closely connected with the certainty of memory is the unity of consciousness in time without which our scattered and fragmentary experiences could not be fused into a single whole. And with this again is connected the feeling of time. Time is no mere appearance, but a reality of which we become aware through the continuity of consciousness.] **H. Siebeck.**

'Das Problem der Freiheit bei Goethe.' [Goethe shows a keen sense of the reality of moral obligation, and therefore must have believed in free-will, which however he united in a higher synthesis with determinism.] **H. Clasen.** 'Gustav Glogaus System der Philosophie.' [An admiring exposition of Glogau's philosophy continued in the following number and not yet completed.] **Heinr. Gomperz.** 'Die Welt als geordnetes Ereignis.' [A very interesting exposition of extreme phenomenalism, conveyed under the form of critical annotations on a short essay by Richard Wahle. After completing his review, which extends through this and the next two numbers of the *Zeitschrift*, Gomperz had the melancholy satisfaction of finding himself largely anticipated in Mach's 'Analyse der Empfindungen.' His views are, briefly stated, as follows: Nothing exists but what is immediately given in consciousness. A noumenal cause of phenomena is inconceivable. So also is the self as a synthetic unity underlying consciousness. And it is illegitimate to admit (as Wahle does) that besides the 'total occurrence' known as our own consciousness there are other total occurrences in the shape of other people's consciousnesses. There is one consciousness into which our own and other bodies enter as parts—nothing more. Neither have we a right to assume the existence of past events as causes of present events. Franz Brentano has shown that our sense of time cannot be derived from the experience of a succession of passing moments. It is a massive feeling composed of parts of which we cannot say originally that they are either successive or co-existent, but which are distinguished from one another by 'local signs' or indices known in a more developed stage of consciousness as past, present, and future. Real existence is timeless, eternal. It is an occurrence composed of parts connected by orderly relations. By abstracting and combining these relations we obtain the world of space and time, a fictitious but most useful object of study. The method might with advantage be extended, and the qualities of things be more frankly treated as realities. At the same time certain problems such as the derivation of consciousness from matter should be abandoned as insoluble. And physical science should give up its mechanical view of nature, based as it is on the illogical distinction between the primary and secondary qualities of matter.] **Rich. Hamann.** 'Das Problem des Tragischen.' [Continued from a former paper. The spectacle of unmerited suffering is offensive to the moral but not to the æsthetic sense. The business of the tragic dramatist, as of all artists, is to place before us an interesting exhibition wrought up into a well-rounded whole. And we are much more easily interested in the sorrows and sufferings of others than in their joys.] **Hermann Leser.** 'Zur Würdigung Nietzsches.' [An estimate of Nietzsche from the orthodox German Protestant point of view, completed in the following number. Kant's dissolution of the objective world led to an increased stress being laid on human personality, illustrated first by the categorical imperative, then by Carlyle's hero-worship, and finally by the dream of an Uebermensch. Nietzsche thoroughly misunderstood Christianity and therefore failed to see that only in it could his dream be realised. But being after all the child of his age he fully recognised the profound incompatibility of its materialistic science and industry with the spirit of the Gospel. To have done this remains his real and only merit.] Recensionen, etc. Bd. cxviii., Heft 2. **H. Brömse** und **E. Grimsehl.** 'Untersuchungen zur Wahrscheinlichkeitslehre.' [An endeavour to show that the distinction drawn by D'Alembert and recently revived by Marbe between mathematical and physical possibility cannot be maintained. The question is discussed on the physical side by Brömse, while Grimsehl

points out what he alleges to be serious flaws in Marbe's mathematical reasoning, and adds a discussion of the 'Petersburg problem'.] **Hermann Leser.** 'Zur Würdigung Nietzsches' (Schluss). **H. Clasen.** 'Gustav Glogaus System der Philosophie' (Fortsetzung). **Heinr. Gomperz.** 'Die Welt als geordnetes Ereigniss' (Fortsetzung). Recensionen. [Among these is a very interesting review by H. Brömse of Prof. Wm. James's *Will to Believe*, part of which has appeared in a German translation. High praise is given to the literary skill and general ability of the work, but with considerable reservations as regards its logic.] Bd. cxix., Heft 1. **A. Döring.** 'Epicurs Philosophische Entwicklung.' [Draws attention to the importance of Nausiphanes as a link connecting Epicurus with Democritus and Pyrrho.] **Georg Simmel.** 'Beiträge zur Erkenntnisstheorie der Religion.' [Religiosity is a fundamental category, co-ordinate with the categories of Being and Willing, having its appropriate sphere and objects which it can grasp in complete independence of those other categories. Faith is at once an emotional and a theoretical state of the soul. The apparent circle of believing in God because we feel Him and feeling Him because we believe in Him is perfectly legitimate from the religious point of view.] **Edm. König.** 'Warum ist die Annahme einer psychophysischen Causalität zu verwerfen? [Continues a controversy carried on in former numbers of the *Zeitschrift*. The question of psychophysical interaction does not come under the exclusive cognizance of metaphysics, but may and must be treated according to the methods of empirical science. Judged by these the arguments adduced to prove the reality of a reaction between mental and physical states are invalid. But a general solution of the problem is only possible from the standpoint of transcendental idealism.] **Gustav Störring.** 'Zur Frage der Erinnernsüberzengung.' [Corrects an alleged misstatement of the writer's views in Volkelt's article on Memory noticed above.] **Heinr. Gomperz.** 'Die Welt als geordnetes Ereigniss' (Schluss). **August Messer.** 'Zur Beurtheilung des Eudämonismus.' [Replies to an article by Adickes in a former number. By 'eudæmonism' the writer seems to understand what in this country is called egoistic hedonism, and he attacks it with the usual arguments.] Recensionen, etc.

Philosophisches Jahrbuch. Bd. xiv., Heft 4. **Gutberlet.** 'Eine neue actualistische Seelentheorie.' [The writer criticises Münsterberg's theory which denies the existence of a soul. Every activity requires an active principle, if not material, then an immaterial principle. Causality is not identity, as Münsterberg supposes without proof. We accept hypothetical ether to explain light, etc.; we are driven by psychical facts to infer that the soul exists; in both cases we know nothing of either directly and positively.] **Schmid.** 'Die Lehre Schelling's von der quelle der ewigen Wahrheiten.' [The mediæval question *de origine essentiarum* was answered by Schelling in a personal-pantheistic sense. His God is the knower of all things and is everything. Against this the writer, admitting the first part, points out a distinction between things in God's knowledge and things in His creative power.] **Pfeifer.** 'Gibt es im Menschen unbewusste psychische Vorgänge?' [In this concluding paper, the writer guards himself against the inference of an unconscious God and of a non-immortal soul, that might be drawn from the admission of unconscious mental activity, and points out that its denial would give us Psychology without a soul.] **Von Holtum.** 'Thierisches und menschliches Erkennen.' [The writer points out several essential differences between the intelligence of brutes and that of man; to say that brutes can abstract is a gratuitous assertion.] **Gietman.** 'Nochmals über den Begriff des Schönen.' [This is a short and some-

what controversial article, concerning the idea of the Beautiful according to St. Thomas.]

Rivista Filosofica. Anno iii., Vol. iv., Fasc. v. November-December, 1901. **C. Cantoni.** 'Studi Kantiani.' [Prof. Cantoni, himself the author of an elaborate work on Kant, reviews a number of recent contributions to Kantian literature, particular attention being given to Paulsen's work. Cantoni agrees with those critics who dispute Paulsen's contention that Kant had after all a metaphysical system of his own.] **L. Credaro.** 'I Progressi della Pedagogia di G. F. Herbart.' [Extols the educational philosophy of Herbart and notices some recent French and Italian works on the subject.] **G. Cesca.** 'Il Monismo di Ernesto Haeckel.' [A rather contemptuous criticism of the 'Welträthsel' from an agnostic point of view. Haeckel owes his success to the aggressive theological reaction which marks the closing years of the nineteenth century.] Rassegna Bibliografica, etc.

VIII.—NOTE.

DEATH OF PROF. ADAMSON.

It is with deep regret that we have to announce the death of Prof. Adamson, of Glasgow University. An obituary notice will appear in our next.

MIND ASSOCIATION.

THE following have joined the Association since the printing of last number:—

BERKELEY (Commander H.), Sunnymead House, Oxford.
GALLAGHER (Rev. J.), Clwyd Hall, Ruthin, N. Wales.
LOWNDES (Miss M. E.), Via di Fontelucente 20, Fiesole, Florence, Italy.
SHAND (A. F.), 1 Edwardes Place, London, W.
SHARGHA (Prof. I. K.), The College, Bareilly, N.W.P., India.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. HENRY STURT, 5 Park Terrace, Oxford; or with the Hon. Treasurer, Mr. F. C. S. SCHILLER, Corpus Christi College, Oxford, to whom subscriptions should be paid.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—ON MENTAL CONFLICT AND IMPUTATION.

By F. H. Bradley.

The purpose of this article is very limited. It proposes to deal to a certain extent with the subject of divided will, the conflict in the mind of ideas generally, and specially of the ideas in desire and impulse. It will inquire into the alleged facts of action contrary to will with special reference to the general nature of volition. And its aim will be to point out the principles on which in practice we impute actions to our selves or again disown them. I have for some time desired to write this article in order, while trying to throw further light on its subject, to defend and in part to supplement the account of Will which I gave in Mind, No. 49. And I was led to desire this largely in consequence of a very interesting "Study in Involuntary Action" by Mr. Shand.[1] The proper course doubtless would be to treat systematically the whole topic of desire and volition, but that course (if I could follow it anywhere) is not possible here. Any paper of the present kind must at least endeavour to speak for itself, however

[1] In Mind, Oct., 1895. Compare other articles by the same writer in Mind, Oct., 1894, and July, 1897, and one by Dr. Stout in July, 1896. I perhaps may be permitted to say that I at the time wrote a brief reply to Mr. Shand's criticism. An unfortunate accident, however, prevented this from appearing at the proper moment, and so I thought it better to wait, not foreseeing the length of the delay. I have also made use in this paper of Dr. Stout's article, though I cannot assent to his definition of will. Compare also his *Analytic Psychology* and his *Manual*.

narrow its limits, but I hope that it may find support in other articles that have preceded and will follow.

Volition I take to be the realisation of itself by an idea, an idea (it is better to add) with which the self here and now is identified,[1] or it is will where an idea, with which the self feels itself one, makes its own content to exist.

I hope on another occasion to explain this thesis more fully,[2] but I set it down here as that which the present discussion will in the main support and defend. I have not forgotten that Mr. Shand has written, "It will be difficult for any one who has reflected on the type of abortive volition in involuntary actions to any longer maintain that the realisation of the idea is essential to volition" (MIND, N.S., No. 23, p. 291). In fact, I may say that the study of his interesting papers has done a good deal to confirm me in my view. The one defensible account of will (I must hold) is that which makes it consist in the self-realisation of an idea, and I cannot, even with Mr. Shand's help, perceive that a serious objection to this doctrine can be based on anything in those actions which he terms "involuntary".

I will at once proceed to state the objection urged against will's being essentially the realisation of an idea, the objection, that is, which Mr. Shand would base on the facts as he apprehends them. I will then try to show that, even when the facts are so taken, the objection will not hold good, and I will point out the falsity of that assumption which underlies it. I will then deal briefly with the nature of mental conflict and of action contrary to volition. And I will end by asking how the result gained will bear on imputation. But by imputation we are here to understand the mere fact that we accept or disown certain actions, and I shall not inquire if in thus disowning or accepting them we are morally right.

Will, we are told by the objection, cannot consist in the realisation of an idea, since there are facts which are inconsistent with such a definition. And the fact, which we are here concerned with, is the alleged instance of action which realises an idea but is contrary to will.[3] There may be two

[1] In MIND, No. 49, I left out this addition, not because I did not hold the doctrine, but because, having to treat a very large subject in a very small space. I tried, rightly or wrongly, to simplify the matter. The meaning of the phrase will be discussed in a later article.

[2] I may, however, in the mean time, refer the reader to MIND, No. 49, and again to MIND, N.S., Nos. 40 and 41.

[3] Mr. Shand proposes to call this by the name of "involuntary action". I do not myself see how we can fix the sense of "involuntary" as "contra-voluntary," when the term has a wider meaning which is so well

ideas present, it is said, at once to the mind, two ideas which move us towards two incompatible actions, and which, so moving us, conflict with one another. Each of these ideas, it is added, is felt as mine and is identified equally with myself. And we may take as an example the morbid desire for drink in collision with the effort after duty. When in the result an action comes in either direction, then by the definition either action alike should be will. But under at least some conditions when we have drunk we insist that we have not willed, but that our real will has been overpowered by the morbid idea. Hence the difference which constitutes the essence of will does not (it is objected) lie in an idea identified with the self. The difference must lie elsewhere, and Mr. Shand would appear to find it in an inexplicable Will.

Now I do not accept the above description of the facts as correct, for I cannot admit without very serious qualification the simultaneous presence of each idea. But before entering on this matter I desire to lay stress on another point. Even if it were true that the self is identified at once with two conflicting ideas, the self need still not be identified with them alike and equally. There may be a difference here which will amount to a distinction and to an alternative between Yes and No; and this difference will be a reason for our attributing the result of one idea to ourselves and for our disavowal of the other. To this aspect of the case Mr. Shand, I think, has not done justice. The difference here of higher and of lower, with the possible consequence of an alternative between will and no-will, is very far from consisting in the presence or absence of mere morality. A highly immoral act may in a sense be an act which is higher, and it may come in an eminent degree from my self and my will. And in short it is necessary to enter into an examination of the whole question from this side. We must ask in the case of ideas which move us, and again in the case of mental states generally, in what way one of these is higher and more mine than another. All of them are "mine," we are agreed, but there may be a special sense or senses in which they can be distinguished also as more and less "mine," and can even be distinguished as "mine" and "not-mine".

1. We all recognise the distinction between on the one side our true self, or our self taken as a whole, and on the

established. I fear that the result of such a struggle against language must be confusion, and I cannot perceive that the struggle is necessary. I should add that I do not forget that Mr. Shand rests his case against the above definition of will on other grounds also. I shall deal with these on another occasion.

other side a lower and chance self of some moment. There is a central group and order of certain feelings, ideas and dispositions, which we should call essential to our selves. And hence, when we fail to act in accordance with certain habits, interests and principles, or even act in a way opposed to them, the self that is realised is felt to be accidental and other than our true self. This is all so familiar that it would be superfluous to dwell on it, and taking it for granted I will pass on to insist on a further point. This distinction does not rest on the interference of an inexplicable something which is called the "Will". For it holds, in the first place, obviously between one volition and another[1] as well as between volition and other aspects of our nature. And in the second place it holds in cases where no volition at all is present. And a distinction applicable between volitions, and applicable also neither solely nor specially to volitions, cannot reasonably, I submit, be based on an empty "Will". "I was not myself when I could act in such a manner," "I was not myself when I could so think of you," "I do not feel myself at all to-day," "It was not like him to make that stupid mistake"—we have here some ordinary examples. We do not find in all of these cases the presence of volition, but we find in every case alike the false or the chance self in opposition to the genuine self. I in short fail to see how volition can here be specially concerned, since the same opposition seems on the contrary to prevail through every part of our being.

But, it may be objected, this distinction after all is but an affair of more and less. Outside of morality we may have perhaps a self which is higher or lower, but we never find a self which is really mine against a self which is not-mine, and which stands on one side of the chasm which divides Yes from No. An objection of this kind is common everywhere, but it seems really one-sided and superficial. Everywhere a difference in degree may amount to a distinction in kind. Everywhere, when you compare things with a view to some end, and so measure them by some standard, 'more' and 'less' may be opposed as what is right and is not-right. And in the narrow sense of 'moral' these distinctions are

[1] If the Will were taken as something known and possessed of a known character, then, of course, volitions could have more or less of this character, and so be distinguished among themselves. But if this same character were found also to exist in every part of our nature, there would be so far no reason for ascribing it to the Will. I am, however, in the text, speaking of a Will which, itself unknown, interferes from the outside.

not all moral, and they are not confined to the moral world. Wherever in theory or practice one particular course must be taken, it seems even obvious that the course chosen, because it is better, will become for that reason the one course which is not bad. I am not at present raising any question with regard to imputation, and I do not say that everywhere the worse course, if taken, would be disowned by myself. This is a further question with which at present we are not concerned. What I wish to point out here is that everywhere and through all regions of our nature we find a distinction between the self which is, we may say, essential and the self which is accidental. And this distinction, however much it rests upon difference in degree, can and does come before us as a difference in kind between mine and not-mine.

It is the concrete matter and substance of our selves with which we have been so far concerned. And hence the distinction, so far as it has at present been drawn, may, if we please, be called *material*.

2. I pass from this to consider other ways of distinguishing higher from lower and mine from not-mine. There are several of these which in comparison with the foregoing may, if we please, be called *formal*. Everywhere the more universal, we may say, is the higher and more mine, and it is on this principle that all our formal distinctions rest. But it was really this same principle which was involved above in our 'material' distinction. For, since our self is in its essence a system and concrete universal, the more general and the more material will in the end be identical. The higher, because it is higher, will for that reason be wider, and it will also be lower in the sense of being more deep-rooted and fundamental. But, though at bottom the same, these principles may diverge in practice and may even be opposed. The more general may often be only more abstract, and the increase in abstraction may be at the price of greater onesidedness and emptiness. Hence the higher will here be higher in one respect only, while viewed from another side it may be lower and worse. It is in a word but higher formally. On the other hand that which is less abstract may often be really more universal. For it may extend far more widely, it may represent more of the whole, and, containing a greater amount of the essential matter, may so in the best sense be more material. But this opposition, we must remember, is not absolute, and whatever is higher materially would, if it became explicit, be higher also formally. On the other side in practice there is a relative division and a divergence of two principles. And hence I will go on to point out some

varieties of what may be called formal superiority. There are real differences between these, but the differences all come from one ground.

(*a*) In theory and practice alike a course will be formally higher when it explicitly and consciously asserts a principle instead of embodying it unconsciously. It is a higher thing, we may say, to act, knowing why we act, than it is to act simply. On the other hand, if you compare two actions while taking them as wholes, that which is conscious of no principle may of course really be the higher. For the principle asserted formally by the other action may be defective and narrow. In other words to act with a reason is, so far as it goes, higher than to act without one, but in any particular case the man who can give no reason may have more reason on his side. We know the one-sided theorists who always go upon a principle and who usually go wrong, because their principle is too abstract or (it comes to the same thing) is too narrow. And on the practical side the same defect is familiar. When, to take an extreme case, I protest that 'I do not care what the thing is, I will do it because I have said so and because I choose'—such a course is in one sense extremely high. I am appealing to the idea of the self which is a law to itself and is a principle superior to anything in particular. On the other hand I am applying this principle not as an individual system and whole, but as an empty abstraction. The connexion therefore between my principle and the particular act is accidental and external, and is perhaps supplied by the meanest and narrowest caprice. Still, if you consider it formally, my act is really higher and is more mine than if without consciousness of any principle I had acted rightly. In the end there will be no divergence between what is best materially and best formally, but in any given case an opposition between the two may arise. And we must admit that to be conscious of a principle is, so far as it goes, a genuine superiority.

(*b*) I will pass on to another kind of superiority which also is formal, and which exhibits the same principle in a different application. We know both in theory and practice what it is to adopt a course at once and unreflectingly, and what it is on the other hand first to pause and then to say, 'Yes, I will take it'. I am not referring to the instances where incompatible suggestions leave us paralysed, and where, after oscillation or forgetfulness, one of these suggestions returns and determines our action. I am speaking of cases where we do not merely pause, but where we pause and reflect. We

have a special end which is strong enough to prevent action until some course has been mentally qualified as its means. Or from the mere habit or, again, the idea and conscious principle of waiting, in the presence of a difficulty, until we have seen the thing from all sides—we in the presence of some suggestion or suggestions repress and suspend action. The suggestion or suggestions, whether in theory or practice, are, we may say, negated; they are for the moment alienated from my self and made into objects. This does not of course mean that they cease altogether to be felt, but it means that, in becoming objects and in being held before me, they tend so far to be felt less, and are kept in check by a principle with which the self is identified. These facts are so important that it is better to recognise them, even while ascribing them to a faculty or a miracle, than it is to ignore them altogether; but I cannot perceive that we are driven to a choice between such alternatives. In the earlier stages of the mind there is of course no reflexion at all. Ideas which conflict in our minds leave us helpless and a prey to various kinds of oscillation. It is later, when possessed by some idea which we are unable to realise, that we make the means to this end, and again what opposes it, into the objects of our thought. And as the end becomes more generalised, and, we may say, pushed further back by conflict and competition among its details, the end naturally will come to hold under it a number of alternatives. And these alternatives are by the agency of this end, with which our self is identified, brought before us as objects. In this way arises the habit and the principle of suspending action in the presence of difficulty or doubt, and of considering the possible courses. But it is still and always that higher end, under which the alternatives fall, which is the fixed and active principle. It is the identification of my self with this higher principle, whether in unconscious habit or conscious idea, which checks the suggestions[1] and neutralises them, while

[1] I use the plural because I presume that, under normal conditions, if a suggestion in theory or practice really were and remained single, and strong enough to overcome what may be called my psychical inertia, I should certainly follow it. What restrains me is the presence in some sense of an alternative, and the only question is as to how general or how special this alternative is, and again at what point it is brought to consciousness. In connexion with the doctrine of the text I would advert to the phrase 'to collect oneself'. My self is dispersed by being identified with conflicting suggestions and scattered in their disorderly struggle. It is collected when the various incompatible courses are taken all alike as *not* the end and as inferior to the end, but at the same time as possible means to the end. It is this which at once both negates and

keeping them as objects before me and in a sense apart from me. And it is because my self is on the one side identified with this principle of a higher self, that a suggestion can be felt by it as on the other side embodying the lower self of the moment. And here in these cases we find the source of my felt constraint and self-alienation, and here is once more the reason of a further experience. When after reflexion's pause a suggested course coalesces with the idea of my higher self, or at least ceases to arouse the opposition of a principle higher than itself, that course becomes, as we say, adopted. My self, before which the suggestion was held as something alien and incompatible, now feels itself one with the suggestion and experiences that as its own self-assertion and development. Hence the process of the idea comes to me now as my truth or again as my reality that is to be. And it is because the possible alternatives have one and all been previously negated and so separated from my self, that my self is now free to discharge its collected and undivided energy in this single direction. And the coalescing of the self with that suggested modification of itself which was for a time held aloof, naturally brings with it the heightened experience of reunion after estrangement. Here is the origin of that "electric thrill" which Prof. James seems to find inexplicable by psychology, and, if I may say so, endeavours to exploit for a mistaken end[1]. But, without attempting here to dwell

subordinates the suggestions, and, while checking their independent action, retains them as objects. And it is by identifying myself with this central principle that I become collected and confront the detail as my property.

[1] The great reputation which Prof. James deservedly enjoys as a psychologist compels me somewhere to notice his doctrine of moral responsibility. But even that very sincere respect and admiration which I feel for his work in psychology does not, I am sorry to say, make it possible for me to speak of this doctrine respectfully. When in the presence of two alternatives (so Prof. James informs us), one of which is remote and ideal, while the other presses on me with sensational urgency, I will the former with an effort—this is something unaccountable. It is, among other things, an action in the line of the greatest resistance. It is also the real essence of volition, and, being an affair of the purest chance, it is a conclusive instance of Free Will. And the fact that when I am tempted there is absolutely no reason why I will one thing and not the other—this fact, Prof. James assures us, is a pledge that morality is not an illusion. But "chance" appears with Prof. James to have several senses. In his *Will to Believe* (p. 155) it is said to mean than under absolutely identical conditions the same result need not follow. This is, as I understand it, really to contend that the same A is at once and in precisely the same sense both B and not-B, a contention which obviously would destroy and remove the whole notion of truth. Every one who anywhere desires to ask and to speak about the true and

further on a large and interesting topic, we may pass to our conclusion. In theory and in practice alike a course that has been adopted after reflexion will be so far superior. It will at least in one respect be a higher expression of my true self. The reason of this is that such a course has been separated from union with my self as the mere self of here

the false, must begin by postulating in effect that any such contention is absurd. And even in the *Will to Believe* I find indications that such an undiluted absurdity is not what really is offered. There are signs, I think, that what Prof. James actually means is that the two cases really do differ, but that, not perceiving in what without prejudice to his conclusion such a difference could consist, he has been led to deny its existence. There appears to me to be at any rate a very serious confusion in his *Psychology*. Prof. James there states the alternative as being between Free Will and Determinism, so that whatever is not Determinism is *ipso facto* Free Will. He then seems to define Determinism as the doctrine which holds that the duration and the intensity of any effort which we put forth, are "fixed functions of the object" (ii., 571) or "mathematically fixed functions of the ideas" before our minds (574). And any other doctrine but this (so I understand) is defined as Free Will. This is to say that in volition you are ordered to strike out (*a*) the influence of what is actually in the mind though not before it, and (*b*) the influence of everything in the shape of a disposition whether natural or acquired. You are to accept this mutilated view, which not only in the case of volition but throughout psychology you probably consider to be quite untenable—or else, according to the sense in which I am forced to understand Prof. James, you are compelled to embrace the alternative of pure chance. And the only comment upon such an issue which I could offer would be this. I do not understand how any one with the abilities and knowledge possessed by Prof. James could present such an issue to his readers unless his mind were influenced by ideas extraneous to psychology. And when he himself appears to hold Determinism, as thus defined, to be for the most part satisfactory to himself, I can hardly suppose that I have rightly apprehended his meaning.

With regard to "action in the line of greatest resistance," I will add a few words. We have here once again, as I understand it, the false alternative to a doctrine which itself is false, and the application to the soul of these mechanical doctrines is not likely to result on either side in anything satisfactory. The fact referred to, I presume, is this, that ideas and principles have not motive power in proportion to the amount of psychical perturbation which immediately corresponds to them. We therefore can choose the alternative which produces, and which we know will produce, most temporary trouble and unrest. But I am unable to perceive that this fact is in any way even abnormal—to say nothing of its supporting the worship of blind Chance. We find the same thing regularly in the world that is merely intellectual. Where I refuse to adopt a principle of explanation which would make things easier in a particular case, if to do this would conflict with my more general principles—this is to follow (if you *must* say so) the line of greatest resistance. But for myself I must decline to adopt metaphors which seem to me to be false and misleading (*cf.* here Dr. Stout, MIND, N.S., No. 19, and *Manual*, p. 596).

About the claim to base moral responsibility upon mere chance, and to make it literally an affair of sheer accident, there is but little to be said.

and now. And it has been brought, consciously or unconsciously, under the principle of the self that is above the detail of one moment, and is in the best sense universal. But this formal superiority, we must remember, may be one-sided. It may on the whole be consistent with, and may even conduce to failure. The self that has risen above the particulars of the moment's detail may remain idly suspended and incapable of re-entering them with collected force. Or,

And, again, whatever seemed called for from me has been said now a long time ago. I must be allowed to express my opinion that apart from its theoretical absurdity such a claim is morally revolting, or would become so if it really could be seriously urged. Prof. James, it is true, seeks to attenuate this paradox. He limits, as I understand, my moral responsibility, and makes it begin and end with those cases where I decide with an effort in the presence of temptation. It is only here, he urges, or seems to urge, that my conduct is really a matter of pure chance, and that I, in consequence, am a responsible agent and not "the dull rattling of a chain, etc." (i., 453). But, if I had to choose, I should myself prefer the unlimited absurdity; for that is more consistent, and I cannot see that it is any more absurd. And if I am asked how, if these doctrines are really what I think them, they can possibly come to be upheld, I must answer as follows. I am forced to believe that these results are not got by an unprejudiced inquiry made direct into the real claims of our actual moral nature. Wherever they are reached, they appear to be reached by reasoning downwards from alternatives now long ago argued to be vicious. They come from our looking at morality while one eye glances at theological dogma. They are got, I must be allowed to add, by our neglecting to ask ourselves whether in the end what we mean is anything positive. If, in the presence of his moral experience a man objects to every form of Determinism which he finds offered him, on the ground that none of these forms is adequate to the fact—such a man may be mistaken, but he most assuredly is so far not irrational, and I at least so far could not refuse him my respect and even my sympathy. But if, assuming first (and it is a great assumption) that some doctrine capable of satisfying us wholly in this matter is possible, any one goes on to set up that which he takes (perhaps without sufficient inquiry) to be the opposite of Determinism, and then asserts this opposite without so much as asking if, considered morally, it is itself even tolerable—it is impossible for me to treat any such conclusion with respect. And I have thought it better, even at the risk of giving offence, to express in plain language what I think and feel on this unfortunate subject. Such thoughts and feelings are not very exceptional, and I should like to make it more difficult for any one quite to ignore them. And since Prof. James has himself, as I think rightly, expressed himself freely on this matter, I am the more inclined to hope that I have not been wrong in doing so likewise. It is really the high standard which elsewhere he has kept before our eyes which has in a manner forced me to protest against what I cannot but regard as a dangerous lapse.

Nothing in the above remarks must, of course, be taken to apply to the theory of Pluralism as against Monism. It would certainly be quite incorrect to identify Pluralism with a doctrine of absolute chance, or with the claim that such an idea is the foundation of morality. On Prof. James's doctrine of volition and consent I shall hope to comment in a future article.

if driven into action, this self may be driven in the end by external accident and chance caprice, and the result will in the end really not have come from or depend upon the inner principle. And it is another case of the same defect where, without morbid suspension, the principle has been taken too abstractly, for here once more there will be no vital connexion with the particular result. Still, in one respect and in general, an act adopted after reflexion will be so far higher and more mine.

(*c*) From this I will go on to consider another variety of formal distinction. When we have before us A and B, the ideas of two incompatible courses, we may or we may not recognise these ideas as in the proper sense alternatives. If we so recognise them, then each is qualified for us by the negation of the other. When, in other words, we think of A, we think of it as A which excludes B, and in the same way we qualify B by the exclusion of A. And, taken thus as alternatives, A and B are so far placed on the same level, and you cannot say that one of them is formally superior to the other. But the case is different where A comes before us as qualified by the negation of B, but where on the other hand B is not actually thought of as excluding A. In this case B, however incompatible with A, does not come before us as containing the negation of A. And hence, taken formally, A and B are so far not on a level, since, as I think of them, while A embraces and subordinates B, B on the other hand does not contain any explicit negation of A. B is therefore, we may say, thought of as standing under and subject to A, while the subjection of A is not made any part of B's content. And A will therefore clearly so far be higher and will be so far more mine. It will be higher because it is wider and more inclusive, and is in this respect nearer to the idea of my true self as an individual and concrete whole. It is however scarcely necessary to point out that, here as before, a formal superiority may be barely formal, and may amount practically to nothing. But once again, so far as it goes, we are bound to recognise it. And trivial or trifling as this distinction perhaps may appear, we shall find that in its application it may possess great importance.

3. There remains a principle of distinction which, though connected with the foregoing, does not directly fall under them. An idea which is pleasant or more pleasant is so far higher and more mine, and an idea that is painful or more painful is, on the other hand, less mine and lower. In a given individual case this principle may of course prove one-sided and so far false, but still, as far as it goes, it will

remain always true. And, taking the world as a whole, we have some reason to believe that any divergence between this principle and the foregoing principles is but local and relative. We make no assertions about the goodness or badness of pain and pleasure *per se*, and we leave that to the Hedonist and to others who insist on taking abstractions for realities. We find in fact that pain is connected with contradiction and defect, while pleasure on the other side goes with increase of being and with harmony. And, if we are wise, we shall not seek forcibly to divide these aspects. We shall not attempt to derive the one of them from the other, or to make either of them in abstraction the absolute good. But, avoiding this error, we may fairly say that the pleasant and the more pleasant is so far higher and more mine, while with pain the opposite is true. We might call this distinction material, on the ground that pleasure and pain are not forms but are sensations or feelings. We might again, if we chose, insist that this distinction is but formal, since it to some extent varies independently of that which is material. But in my opinion we shall do better if we leave these terms alone. They are of little value anywhere, and used here they would probably even be mischievous.

I would, before proceeding, once more remind the reader that all these distinctions in degree may, under some conditions, amount to differences in kind. Everywhere that which from one point of view is but more and less, becomes from another point of view right and wrong, and true and false, and mine and not-mine. The interval bridged by degrees becomes, in other words, the open chasm between Yes and No. And now, in view of the above distinctions, I would submit that, apart from mere morality, there may be differences between a higher and a lower self. To hold that when my self is identified with ideas, these ideas must, outside of the moral sphere, all equally be mine is surely indefensible. We have found enough differences in the daylight, and have seen no need to invoke the darkness of an inexplicable Will.

I will pass on now to consider the actual facts of mental conflict and the struggle of ideas and desires to move me in opposite directions. And it will be convenient in this article to speak of these ideas throughout as being also desires, even where they really are not so.[1] It was, we saw, maintained

[1] The main difference here lies in the presence or absence of pleasure felt in the idea (see MIND, No. 49). I shall in the present article take some account of this difference with regard to imputation, and I hope to touch on the general nature of desire in a future article. It will be

that I could have before me at once two incompatibly moving ideas, and that my self could be at once identified with each of these ideas as actually present together. And it was added that, though either of these ideas might be realised in fact, we had not in each case alike with this the presence of volition. And from this a conclusion was drawn as to the nature of will. On the other side, the reader will remember, I have already urged that, even from the ground of these alleged facts, the conclusion does not follow. And I will now give my reasons for not accepting the facts as alleged. The subject is of course a very old matter for discussion, and it must always remain difficult on account of the number of questions which it involves.

What in the first place, let us ask, are incompatible ideas or desires? They are such as, being diverse, would qualify the same point incompatibly.[1] But when we have such incompatible ideas or desires, we need not know them to be incompatible. We may have them, and know that we have them, and yet may be unaware that they are contrary. And in the first and in the simplest case of such unawareness the ideas have never as yet collided. They come before us as one single complex of idea and desire. They are, in fact, but diverse elements contained in one desire and one idea, and within this whole they are so far simply together, and coupled, we may say, by a mere "and".[2]

But as soon as action begins, these elements naturally prove incompatible. In their movement towards reality our ideas collide, and the 'and,' which joined them in harmony, at once disappears. In our attempt to act we either altogether fail to produce an action, or, if we succeed, we succeed but in part, and perhaps with painful results. And, led thus to pause and to consider, we may perceive that our desires interfere one with the other. Hence they are known now to be incompatible, and can no longer come before us as mere positive elements in one whole. And on this (*a*), one desire and one idea, as being far stronger than the other, may simply

understood, of course, that I recognise desire nowhere where an idea is not present. The general head for me is that of 'moving idea,' and 'desire' I take to be but one kind that falls under this head. It is merely for the convenience of the reader that in this article I make the two co-extensive, and I would beg him, in justice to me, to remember this.

[1] This means in the end that they would, being diverse, simply qualify the same point (see MIND, N.S., No. 20, or *Appearance*, Appendix, Note A).

[2] For a full explanation of this, I must refer the reader to a former article in this series, MIND, N.S., No. 41.

extrude it. The weaker idea may once and for all be driven out as an idea, and the result, which it leaves behind it, may be inappreciable, or at least too weak to reinstate it. And in this case the conflict of desires, in the proper sense, is at an end. But (*b*), if for any reason the desires are more equally balanced, such an extrusion will not happen, and in its stead a process of ebb and flow and of oscillation may set in. The ideas are not yet qualified for our minds explicitly one by the negation of the other, but practically, as soon as either begins to occupy us, the other also appears and struggles to expel its opposite. Each for the moment succeeding is in its turn forthwith driven out by the other, for neither by itself or again with the other can content us. In this alternation when, for a time, one idea is excluded, then for that time the desire which corresponds is in the strict sense at an end. But an idea, thus expelled after fluctuation, cannot fail more or less to survive in its effects. A mass of excited feeling which was joined with it will remain behind, and this feeling will be incongruous with, and will struggle against the other idea which, for a time, has prevailed. The dog who, desiring to eat the forbidden, has been rebuked by his master, may for the moment have ceased in the proper sense to desire it. The idea of eating has been driven out, but the felt flow of saliva, with other elements of excited feeling, will remain. There is hence a psychical group incongruous with the idea of ready obedience, and struggling to restore its own opposite idea. And in the case of aversion the same thing will naturally hold good. We may have overcome our aversion in the sense that the idea of escape or destruction is banished. But none the less, feelings and movements which correspond to that idea may survive, and to an extent greater or less may strive against the prevalence of the counter idea. We may take as an instance of this the resolve to swallow some nauseous drug. We, in short, have not here, in the proper sense, the actual aversion or actual desire, but we still must be said to be averse or desirous.[1]

(*c*) What will be the end of this alternation of contrary desires? If the need for action is felt to be imminent, the chance pressure of some moment will force, we may say, accidentally one idea into reality. But, apart from this, the oscillation will tend normally to cease, as, from whatever cause, the excitement dies gradually down, and the ideas

[1] I hope to return to this whole subject. On the nature of aversion, I must, for the present, refer the reader to MIND, No. 49, p. 21. The ordinary doctrine on this head I still venture to think very seriously mistaken.

move us less strongly. We (i) may relapse into a state where we even forget the incompatibility and the conflict. And here, once again, we unite our opposite ideas and desires as elements in one positive whole, and simply re-join them by an 'and'. Or (ii) preserving some memory of their hostility, we may seek more or less unconsciously to reconcile them by an imagined harmony. We invent or we entertain the idea of some fancied situation, and, placed in this by a change or an addition of some element, our jarring fact undergoes an imaginary transformation, or at least tends, more or less unawares, to be ignored in a certain aspect. In this new complex, our contrary desires are both co-ordinated on equal terms, or again one of them becomes without negation in some way disregarded, or else taken as subordinate to and positively included in the other. Thus a man without conflict may desire both to remain in bed and to rise, because in some way his present does not come before him, altogether and without condition, as this 'now' that now is. Or dreaming of how things might have been if he had married the woman that now is his neighbour's, he may succeed unrebuked by his conscience in desiring her sinfully. What is done here is to imagine, more or less consciously, that some condition is added or removed, with the result that the case is altered, and is really no longer the actual case in hand. And so for the moment the incompatibility, though in truth unremoved, is removed from the view, and the confused whole can be desired without collision.[1]

(*d*) We may, however, led by willing insight or driven by hard experience, have been brought to perceive that our two ideas A and B are really incompatible. And (i), in the first place, we may have qualified A by the idea of negating B, either in part or entirely, without at the same time qualifying B's content by the negation of A. B may be unable even to suggest itself as the exclusion of A, or, if so suggested, it may be unable to maintain itself as A's negative. On the other hand A, in its character of superiority to B, may perhaps be forgotten, but can never be consciously driven

[1] *Cf.* here James, *Psychology*, ii., 565. With this mode of removing practical conflict we should, of course, compare the theoretical solution of contradiction by way of distinction and division. In connexion with the doctrine of the text I should add that I, of course, reject the doctrine according to which the real and the imaginary can for me be distinct without an actual difference in their contents. While, *e.g.*, I feel cold, I can certainly imagine that I feel warm, but certainly not without, in doing so, more or less abstracting from the conditions of my here and now. The widespread error on this subject makes, wherever it exists, a rational doctrine of belief and judgment impossible.

out or held in subordination by its opposite. And hence the conflict of desires is, under these conditions, at an end. For a desire in the proper sense is not present without an idea, and it is now impossible for the idea B to maintain itself in collision with A. B, in short, cannot as against A any longer appear as an independent idea. It can appear, but, where A is present, it can appear only as held in subordination to A. It is so far, therefore, a mere element included now in A's content, and hence we must say that, as the idea B, it has so far ceased to exist. On the other hand, there may remain (as we have seen) a group of excited feelings and movements, which, if it could gain an independent expression, would be once more this desire and this idea of A's contrary. We may recall the instance of the dog mastered but still hankering and licking his lips. So again in determinedly swallowing a nauseous drug there may be a struggle of hostile feelings and even movements. But so long as B, the idea of rejection, is not allowed to appear except as that which is to be and shall be crushed, it is held down as included in and subject to A, and hence, though in a sense averse, we actually have not the aversion B. It is so again when we start on some painful errand with the desire, first of all, to return home and to bid farewell. If this idea B, which in an independent form would be in actual collision with our starting, is subordinated to that idea, and appears but as a thing which under the conditions is excluded—we have again no conflict of ideas or, in the proper sense, of desires. We have at most a hindrance and a resistance of elements which, so long as they are prevented from taking a higher form, fall short of a conflicting desire.

But, before proceeding, I would advert to a common error. It is absurd in volition to talk about the prevalence of the stronger motive and idea, before at least we have tried to make ourselves aware of the ambiguity of these phrases. And even to inquire whether our action takes the line of the less or the greater resistance, is, I will venture to add, in principle irrational. It is to discuss a problem, which to say the least is not merely mechanical, with a mind biassed and in part blinded by physical metaphors. The defeated idea may survive, we have seen, in a mass of feeling hostile to our action. And in this case the volition may be made difficult, and the available energy lessened. But upon the other hand, the result of conflict may on the whole be quite different, and the resistance, we may fairly say, has gone to increase the positive force. It is after all the whole self, and not the mere balance of its contents, which is realised in the

act. And in many cases the excitement of the struggle, and even the very survival of the sensations and pains that belonged once to the defeated idea, pass to the credit of the idea with which the self is finally identified. The intensest volition, we might almost maintain, is that which has naturally developed itself from the smallest balance in the greatest sum of collision. Facts such as these will be for ever ignored by the crude gospel of Necessity, and for ever perverted into a plea for miracle by the blind apostle of 'Free Will'. They will be recognised as what they are by no one who has not rejected the prejudice on which both superstitions alike are based.

The idea B, though subordinated, as we saw, by its contrary A, may still be represented by a mental group which survives and struggles to restore it. And, where decisive action is impossible, this group is a persistent source of constant danger to A. For, though B still may be unable to assert itself openly against A in the character of A's opposite, it may none the less, if for some moment its subordination by A is forgotten, assert itself independently and positively. And the result of this will naturally be a desire, and perhaps an act, contrary to A. We have already glanced at this perpetual origin of insidious self-deceit. It may be dangerous, even where you honestly disapprove, to dwell too insistently on disapproval. For the constant negation of B by A is in a sense after all the continual repetition of B. And B is an element which, though subordinated, is perhaps for ever struggling to break loose and to appear and act independently. And hence your supposed repetition of B's subjection may unawares have passed into the habitual toleration of its presence. You tend in effect to lapse into the holding of both ideas as positive, coupled with the mental proviso that the one is taken really as subjected to the other. And from this basis B may in the oblivion of some moment have gone on to become independent unconditionally, and, before you can take warning, may have suddenly realised itself in an act.[1]

(ii) But in the end A and B may become qualified explicitly each by the negation of the other. Each may possess so much mental support, whether direct or indirect, that we may have been forced or led to recognise them as equal and conflicting alternatives. The idea and the desire B will now explicitly include not-A in its content, while A is determined in like manner by the exclusion of B. And a question, we saw, was asked as to what will result when both of these

[1] *Cf.* here MIND, N.S., No. 41, p. 25.

opposites are present. But we must meet this question, for the present at least, by denying the fact which it assumes. These moving ideas A and B cannot, while really taken thus as alternative, be present together, and we are able to think this possible only because we really do not take them as opposites. We, for the moment, may merely ignore their reciprocal exclusion, or we more or less consciously may fancy some wider arrangement in which they cease to conflict. But while each appears simply and unconditionally as containing the negation of the other, I am confident that both practical ideas, as ideas, do not come before us at once. Apart from some compromise, in which they are more or less conditioned and modified, they cannot each at the same moment be identified with myself. One will banish the other, or they will oscillate in a wavering alternation. This process will be painful because of the excited group which supports each desire, a group which, itself unbanished and unsubjected, throughout struggles blindly yet insidiously, and moves to gain expression in an idea and a desire, and so to dominate in its turn. The pain of oscillation will indeed itself be a further motive for the self to terminate the conflict, and, where immediate action is not possible, to attempt at least to silence one claimant by a resolve. But each excited group, while it remains, will seek to recommence its struggle for a voice, and in the end for a despotism. On the other hand, as powers that openly assert themselves each as the opposite of the other, they cannot in this character both rise above ground and appear at once as possessors of the self.

We have been led to enter on an old and well-known problem, the question whether a man can knowingly and willingly do what is bad. It is possible, of course, to answer this question in the affirmative, and to explain the admitted fact rationally by the psychical weakness of one contrary (MIND, No. 34). But, if our foregoing conclusion was correct, such an answer will not wholly stand. We must deny the possibility of a volition where opposite ideas are present together, if it is true that these ideas cannot co-exist where they actually are opposite. If 'bad' be taken explicitly as the contrary of 'good,' and if both ideas are understood simply and unequivocally and without mediation and qualification, 'bad' and 'good' cannot co-exist, nor can one of them be realised as against the other. And in the practical problem before us the meanings of 'good' and 'bad' are clearly fixed as so opposite. Since all will must be directed upon existence here and now, and is not possible except as a change in

and of that existence,[1] an act proposed to be done, whether good or bad, will be good or bad for me now and here. And the 'here' and 'now' will inevitably force these terms to conflict as alternatives. Hence, if our view is right, they will be unable, as practical, to appear both at once, and the assertion of bad against good must be pronounced impossible. We fail to see this because the opposition tends unconsciously to be modified. The bad will become perhaps merely bad for others or, again, for myself at another time and place, or it may come to mean no more than what in general the world would mistakenly call bad. And so understood, the bad has of course become compatible with the good. In the same way when a man exclaims 'Though I know it is bad, I still do not care,' or where he even experiences an added and evil pleasure in opposing goodness, he is after all not really doing the bad as bad. He is pursuing still and he always must pursue his own good. The bad in general, or bad for others, or bad conditionally, is now subordinated to his positive good, and is included in that. Wherever the opposite ideas, in short, are seen to be opposite unconditionally, there may be oscillation or extrusion of one by the other, but the presence of both practical ideas at once is not possible in fact.[2] We may conclude, then, that if I acted knowingly for the bad, the bad must *ipso facto* have become good, and otherwise (we shall hereafter see) the act would certainly not be my volition.[3]

[1] I shall deal with this point in a later article.

[2] I am, of course, following here, as every one must follow, Aristotle; but how far at the same time I may diverge from him I do not inquire. His "incorrigible man," at least as commonly understood, seems certainly an impossible monster.

[3] For this latter consequence see below, pp. 309-10. The reader may object that the doctrine of the text refutes itself by proving too much. By the same reasoning, he may urge, it would be impossible also to will the good knowingly as against the bad, and with this we should be brought into collision with a large mass of fact. The answer is that, if the bad were present with the good as its independent opposite, in that case you certainly could not act for the good. But when the bad is not so present but comes before you merely as negated by the good and as a subordinate element in that, the case is radically altered. You may reply, "But then the same thing will hold with the bad. Where the good as an independent positive idea is absent, the good may on its side be merely subordinate to the bad." Yes, but, I answer, you are now supposing what is downright impossible. The good, where I am conscious morally, cannot fail to be present as a positive idea. The good and the bad are certainly opposed, but none the less they do not stand on a level. The bad without the good would be nothing at all, but the good does not, except in a narrow and special sense, depend on the bad. The bad is, in short, essentially subordinate to the good. To call it a mere kind of

There is, however, a possible objection which I will briefly notice before we proceed. "If," it may be said, "you cannot have at once two alternative desires and ideas, surely this will mean that you are unable to think at all of any contrary alternatives, and such a doctrine, it is evident, you cannot maintain." To this I reply (*a*) that to entertain theoretically and to think of incompatible ideas is, in the first place, not the same thing as to have two such ideas tending to realise themselves as existences in our mental being. It is not even the same thing as theoretically to predicate these ideas of what we call *our* reality. That which makes an idea theoretical will tend to prevent its further realisation in existence. And that again which makes it a 'mere idea'—an idea, that is, which is not judged to be true of *our* world—will once more tend to separate it further from our psychical being. And the failure to perceive this is at once a common and most mischievous error. In the second place (*b*) when, without judging them to be true of our real world, we entertain the ideas of incompatibles and reflect on their nature, it is not the fact that, as we hold them before us, these ideas are wholly and barely incompatible. On the contrary, the idea of them as co-existing in this other world of mere thinking seriously modifies their nature. Their transference to this other world removes the point of union through which in our world they conflict, and by a change of conditions it so far makes them actually compatible. And the thought that, if this condition were removed, A and B certainly would clash, is not the positive maintenance before us of A and B immovably in a state of clashing. It is rather the idea of the exclusion of their collision by and from the 'real' world into another world where by a distinction this collision is prevented from taking place. With these too brief remarks I must pass from an important and wide-reaching subject.[1]

We have now to some extent examined the facts of mental conflict and of what may be called divided will. We previously, as the reader may recall, laid down those principles on which one idea is judged by us to be higher and to be more mine than another. And we may now proceed to the ques-

goodness would certainly not be correct, but that would be far less false than to speak of good and bad as being two independent positive kinds. But I cannot, of course, enter into such a large subject here. We should be led once more to think of the self-contradiction inherent in the bad, and again to reflect on the absurdity of assuming that every idea has a legitimate contrary.

[1] Cf. here MIND, N.S., No. 20, p. 482.

tion of imputation in connexion with the definition of will. But in speaking of imputation, I mean merely to consider the fact without inquiring how far it can be morally justified.

The results we have reached enable us to deal rapidly with the subject of action against will. We have seen that the alleged fact, as it was offered to us, does not really exist. If we use 'desire' in the proper sense in which it involves an idea, we cannot really have an actual conflict of opposite desires, and in the end we might insist that we cannot experience the presence of more than one desire at the same time. But apart from this we found at any rate that, while A not-*b* holds its place, we cannot have also the simple and unconditional appearance of B not-*a*. And, given two opposite ideas explicitly qualified as opposite, we certainly could not in fact go on to realise either in a volition. If, however, for the sake of argument we suppose that B (whether we take it as independent and merely positive or again as an independent B not-*a*) has actually realised itself in the presence of A not-*b*, that would be a case of volition. The act would be so far clearly my will, but for other reasons, we shall go on to see, I might probably disown it as really mine. But I must repeat that I cannot myself admit any such case to be possible.[1]

I am far from denying that, while the idea of A not-*b* is held fast, B in spite of this can in a sense realise itself and pass into act. In the case of abnormal ideas we must allow that, in a sense, this can happen. But, as soon as we consider the real sense in which it happens, we must deny that an act of this sort is a volition. The act would be a volition if B had broken loose from its subjection to A, and had come before us as itself positive and without any reference to A. But as long as B is held subordinate and does not appear except as negated by A, a different answer must be given. You cannot say that a subjected element contained within an idea is itself an idea proper. And since you, therefore, cannot assert that an idea has, in the proper sense, here realised

[1] The reader must bear in mind that this case supposes that both ideas are held to the last clearly each in its own individual character. If that character becomes obscured or confused, then, whatever else happens, the idea B certainly will not have realised itself as against A not-*b*. If the two alternatives or incompatibles come in the act before the mind as one inconsistent ideal whole, it is clear that such an idea as this is not the idea of either, and could not itself possibly pass into fact. The supposed case, in short, demands that each idea maintains its individuality and its relation to the other, and where, and so far as, these ideas work practically, I do not believe this maintenance to be possible.

itself, you by the definition are unable to affirm the presence of will. In such an act we no more have a volition than in an analogous case we should have a judgment. If, while mentally holding fast the idea A not-*b*, I were somehow to give utterance merely to B, that utterance would be no judgment nor the true expression of any idea really in my mind. And in the same way the escape into act of a subordinate element contained under an idea is not in the proper sense the realisation of an idea, and it is so, by consequence, no volition.[1]

Our conclusion, however, must be different if, as usually happens, there are opposing ideas which oscillate. In this case B for the moment may have broken loose from subordination to A, and may in its turn have subjected A to itself, or, as is more probable, for the moment B may simply have extruded A from the mind as an idea. Under these conditions, if B realises itself in act, we have clearly got a volition, and I do not know why we should hesitate to assert this confidently. How far that volition may on other grounds be more or less disowned as mine, is again a further and a different question.

As long as we keep to theory and confine ourselves to that which is in general true, we can deal more or less satisfactorily, I believe, with any case that can be offered. It would be far otherwise if we attempted to lay down rules by which to settle particular cases in practice. We have already noticed a class of actions which, in theory not puzzling, would prove really intractable by any rules of art. There are cases, we saw, where the collision has been more or less unconsciously and surreptitiously removed. Neither of the opposite ideas has here been forgotten or openly extruded, but one or both of them has in some way been so qualified that they are conjoined together in one whole, and now co-exist peaceably. The action that results cannot, of course, realise this inconsistent ideal whole, and the action, therefore, as failing at least in part to carry out its idea, will so far not be my will. If volition, it will be volition only to a certain extent, which

[1] The same, I would repeat, must be said of the realisation of one of the two struggling aspects of a self-discrepant ideal whole. That is not in any proper sense the realisation of an idea, and it is, therefore, not will. In order for the volition of B not-*a* in the presence of A not-*b* to happen, what would be required would be the maintenance of each idea as at once distinct and as related to the other. And we have seen that for a theoretical purpose these ideas can be so held before us. But the very condition which makes that possible is, so far as I see, removed *ipso facto* by the ideas becoming practical. In order to become practical they, in short, are forced in some way to change their character.

will be different in each case.[1] But to know in each case what was actually in the mind of the agent, to find the degree of his illusion, and to estimate his responsibility, indirect and direct, both by way of commission and by way of negligence, is not a possible achievement. And to draw up rules for constructing such an estimate would at best be pedantry.

I will add another instance of this difficulty, mainly because it tends to illustrate the account which I have given of will. If I have the idea of another person as performing a certain act or as being in a certain condition, and if then the act or the condition really follows in me, this, to speak in general, would not be a case of volition. And we must say the same thing if I merely imagine myself as being in a certain psychical state, and if my imagination is thereupon realised in fact. The result will in neither case be volition, and it will probably fail of being so in two ways. The result in the first place may not have followed as a genuine consequence from my mental state, and, if so, it cannot be the self-realisation of an idea. And, even if the result has so followed, it is still not a volition. For the idea of another's act, or the mere imagination of my own act, is obviously not that ideal content which the result has realised. For the idea in each case, as I held it, was modified by a condition which divided it from simple union with my self as existing here and now. And since this character is not and could not be carried out in the result, my actual idea has not been realised, and the result, therefore, is not will. That which has been carried out in act is no more than a partial aspect of my idea, and it therefore in the proper sense is itself no idea at all. On the other hand, if the qualification of my idea as alien or as imaginary for the moment lapses and falls out (and there is, of course, a tendency to this lapse), the case is altered essentially. The idea at once becomes a mere unconditioned idea of the result, and, if that result is as a direct consequence realised, we have genuine volition.[2] This distinction, taken in general, appears to be clear and simple, but to decide in

[1] The question would turn mainly, I presume, on the amount of connexion or disconnectedness between the elements of the ideal whole which is before the mind of the actor, and on what we are able to speak of there as one idea. We should also have to ask how far a volition can fail to realise itself and can yet remain a volition. This difficult question will be taken up in a later article.

[2] It may possibly be objected that, unless I also believe that the result will take place, that result is not volition. But unless the term 'belief' is improperly used here so widely that the objection disappears, I cannot assent to this doctrine. I shall return to this point in a future article.

detail on the point at which an idea has actually lost its qualification as merely alien or imaginary, might hardly be possible. And the attempt in such cases to estimate by rule the amount of my responsibility for the result, in the case of that result being unwilled, or again being willed, would at best be useless. It would probably end in that which has too deservedly given an ill name to casuistry.

We have seen the general conditions according to which the act which results from a mental conflict is either to be taken as a volition or disowned in that character. The alleged case of an idea realising itself openly in the face of its opposite we could not accept. It is not a fact, but is a very natural misinterpretation of fact. But, if the reader decides to regard it otherwise, the principles we have laid down will still enable us to deal with it. By these principles I judge ideas and desires to be higher and lower, and to be mine and not-mine, and I can apply these distinctions to the alleged case in two different ways. I may narrow the definition of will so that the case falls outside and can be disowned as volition. And, if so, will is "the self-realisation of an idea with which the self is identified, provided that this idea is not too much opposed materially or formally to that which is higher than itself and is essentially mine". In view of the ambiguity of language, such a proviso would, perhaps, be defensible, but for two reasons I do not propose to adopt it.

In the first place, I have convinced myself that the fact alleged is not really a fact, and in the second place, even if it were a fact, I consider that the proviso is not wanted. The idea realising itself openly against its contrary would in this case be a volition, and we certainly must go on to allow that this volition would be mine. But with so much the question is very far from disposed of. The act would be my volition, but it need not be my volition in the sense that I should impute it to my genuine self, and consider that I on the whole was accountable for its existence.

I am not inquiring here as to what in the end can be morally justified, and I am not even sure that such a question is able to be answered. I am asking merely about the way in which a man naturally judges concerning responsibility. And, when we view things so, we are led, it seems to me, to the following result. Human responsibility is not a thing which is simple and absolute. It is not a question which you can bring bodily under one head, and decide unconditionally by some plain issue between Yes and No. It is, on the contrary, if taken as a whole, an affair of less and more, and it is in the main a matter of degree. And not being simple, it

cannot be dealt with by any one simple criterion, but must be estimated, as we have seen, by several principles of value. It is indefensible to insist that I am absolutely accountable for all that has issued from my will, and am accountable for nothing else whatever.[1] If I have willed anything I am of course in a sense responsible for so willing, but what that amounts to on the whole is a very different question. Being so far responsible I may on the whole be so little responsible for the act, that without hesitation I disclaim it and disown it as mine. If an abnormal idea, foreign both to my natural self as a whole and to the self which I have acquired, becomes so intense as for the moment to extrude or master opposite elements, the result may be formally a volition; but to make me on the whole responsible for such an act would be barbarous pedantry. For legal purposes we are of course compelled to do the best that we can. We have to abstract from the individuality of each case, we are forced to apply hard distinctions and more or less to ignore what refuses to square with them.[2] But when we try to judge morally, no such abstraction in the end is permitted. And here the question

[1] This doctrine is open to question, not merely on its positive side, but also otherwise. To say that I am to think myself better or worse for nothing except what directly or indirectly has issued from my will, is to come into collision with a body of sentiment which is not easily repudiated. Any doctrine of this kind starts on a path which in the end leads to a choice between opposite abysses (*Appearance*, chap. xxv.). On this subject of moral responsibility I must be allowed here to protest against the assumption that it is tractable only when you introduce theistic ideas. On the contrary, I submit that it is precisely the intrusion of these ideas which has turned the question into a battle-field for rival dilemmas. For myself, when I am offered the idea of a moral creator who tries to divest himself by some ludicrous subterfuge of his own moral responsibility, or the idea of a non-moral potter who seems to think it a fine thing to fall out with his pots—when, I say, I am offered these decrepit idols as a full and evident satisfaction of the highest claims of the human conscience, I am led to wonder if the writer and myself, when we use the same words, can possibly mean the same thing. It is even a relief to turn back to the old view that the Deity is a person limited like ourselves, a person face to face with mere possibility and with chance and change, and in truth, like ourselves, in part ignorant and in part ineffectual. Such a doctrine, I readily grant, need not interfere with our human morality, but I must be allowed to doubt if those who more or less consciously would seek to revive it, can realise what it means. It would in the end leave the limited Deity together and along with ourselves in a Universe, the nature and sense and final upshot of which would in the end be unknown. I cannot myself admit that non-interference with our moral distinctions need be bought at the price of such ignorance. And there are also those who, accepting a more unlimited ignorance, would, in my opinion, be found in a less irrational position.

[2] Thus for criminal purposes. I believe in at least most codes, a man must be mad or not mad. But it is notorious that, apart from the

if an act is mine is very far from being simple. It must be considered from various points of view, and the answer, if we reach one, will be a conclusion drawn from more estimates than one. It will scarcely rid itself of degree and of 'more' and 'less,' and be able to arrive at a clear verdict of 'Yes' or 'No'.

There would be little advantage in our attempting to enter further into this subject, and I will end by repeating those principles which we laid down at the beginning of this article. (1) If I can bring and retain A not-*b* before my mind, and cannot do this with B not-*a*, A is so far higher and is so far mine more truly than is B. (2) The same conclusion follows if, taken on the whole, A is more pleasant than B, or less painful. And if any idea has moving force out of proportion to its pleasantness or, again, to its freedom from pain, that is, to some extent and so far as it goes, a sign of the idea's alienation. It is, so far as it goes, a reason for taking the idea as not genuinely mine. This is, however, a criterion which cannot be applied indiscriminately. In the first place, where an idea moves us at once and before it is attended to, the criterion seems inapplicable, at least directly. And the ground which is here excluded is really large. And in the second place we must lay stress on the words "taken as a whole". It is too commonly forgotten that, when we are moved, the facts are often complex, and that it is a question not of either pleasure or pain but of a mixture of both. Thus any idea, no matter how painful, will, if it remains held before us, produce a feeling of self-assertion with a tension against fact, and so to some extent must become pleasant. The view that a man can will that to which he is averse simply, or even in the proper sense averse actually, is in principle erroneous. And when Dr. Stout (*Manual*, p. 604) adduces fascination as an example of the first kind, I must consider this indefensible. For if fascination is used negatively for paralysis, there is no act, while if it is used positively for attraction, the presence of some pleasure seems even evident. (3) If A is the outcome of and represents something like a deliberate choice, while this is wanting in the case of B, B is so far the lower and the less mine. And similarly (4) if A appears as falling under a principle, while B is taken as under a principle lower and less general or as under no principle at all, A will again to this extent be higher, and will be so far more mine. (5) And last we come to that most im-

difficulty of such a clean division, moral responsibilty can exist among the insane in varying degrees. Responsibility in intoxication is again a well-known puzzle which law must cut with a knife.

portant criterion of all which consists in the material difference of content. If A represents some main interest of my being, and if this feature is not contained or is to a less extent contained in B, then, according to the degree in which it is more absent from B, B is so far lower and is not mine. I need hardly point out that this last principle has a very wide bearing. It is applicable where there has been no mental conflict, and where there has been no question about the presence or the absence of volition. And to some extent this remark will also hold more or less if applied to those criteria which precede. But to dwell on this point would perhaps not repay us.

Will may therefore be defined as the self-realisation of an idea with which the self is identified, and we have found no reason for restricting or for modifying this account. But the reader must remember always that a subordinate element contained in an idea has no right to be counted as an idea, if it is taken by itself. And in any case let us avoid anything like an appeal to an unknown Will. If we find facts which we cannot explain, let us by all means collect them and class them, and, if we think we are justified, let us again by all means set them down as inexplicable. But what in psychology is gained by referring them to an unknown power, by whatever name we entitle it, I am unable to perceive. On the other hand, I am persuaded that by our so doing a great deal may be lost.

II.—THE PHYSIOLOGICAL FACTORS OF THE ATTENTION-PROCESS (I.).

By W. McDougall.

It may perhaps be assumed that every sensible psychologist knows what he means by 'Attention' and even that the meaning of the word Attention, though so difficult to define shortly and accurately, is now pretty well a matter of agreement. The presentation attended to at any moment is the central object of mental activity, and the effect of attention being given to it is not merely or chiefly to give increased intensity and clearness to the presentation, though these effects are usually produced in some degree; but rather the essential effect is to give to the presentation increased '*Lebhaftigkeit*' and '*Eindringlichkeit*'. For these two German words, which so excellently express the facts, it is not easy to find English equivalents, but perhaps we may translate them as 'activity' and 'power of penetration' respectively. We might adopt as a definition Mr. Shand's statement "Attention tends universally to render the idea or sensation attended to more active, evoking such fusion and association as renders further understanding of the object possible".[1] But the definition given by Prof. Ebbinghaus is perhaps preferable, because it brings out the twofoldness of aspect that characterises every attention-process, namely, re-enforcement on the one hand and depression or inhibition on the other. It runs, freely translated, "Attention consists in some one psychical compound (*seelisches Gebilde*) coming into a state of lively and predominant activity at the cost of others, which also are striving to assert themselves in virtue of certain factors that tend to promote them," and again "Attention is the result of a process of selection; it consists in a narrowing or concentration of the mind upon a certain number of the sensations and images which the external conditions obtaining at any moment render possible".[2]

[1] "Analysis of Attention," Mind. N.S., vol. iii.

[2] *Grundzüge d. Psychologie*, Band i., s. 575.

The problems that must be solved, before a complete account of the attention-process can be given, fall naturally into three groups, which may be defined as follows:—

(1) (*a*) What is the nature of Attention considered as a state of consciousness? (*b*) What is the nature of the physiological state or process underlying this state of consciousness?

(2) What are the factors that play a part in bringing about the perpetually changing series of states of attention? *i.e.*, what are the factors that select one object from among many tending simultaneously towards the focus of consciousness and cause it to predominate and to occupy the focus to the exclusion of all others?[1]

(3) How exactly do these factors work?

To the first of these questions, (1) (*a*), a pretty complete answer can now be given; the problem has been solved by the purely psychological methods. Nothing of much importance remains to be done in this direction, though no doubt the terms of our definition, our account of attention as a psychical state or process, may be capable of further refinements, as has been shown by Mr. Bradley in his article in the last number of this journal.

As regards the problems of the second group some progress has been made. Probably all the factors that may be conceived to play any considerable part have been in some degree recognised and discussed. They may be briefly enumerated as follows:—

(1) A general awakeness of the mind[2] is the first condition of attention, and the higher degree of awakeness or general activity of the nervous system is the more favourable to attention.

(2) The degree of sensitivity of the sense-organs.

(3) The intensities of the stimuli playing upon the sense-organs.

(4) The relative novelty of these stimuli.

(5) Contrast, simultaneous and successive, between the stimuli.

(6) The motor adjustments provoked for the better examination of the object attended to, especially the adjust-

[1] I take it for granted that the obviously true doctrine as to the singleness of attention is that laid down by Mr. Bradley in his article 'On Active Attention' in the last number of this journal, and I do not propose further to discuss this point. See p. 20 *et seq.*, MIND, N.S., No. 41.

[2] I adhere to the usage of the words 'mind' and 'mental' suggested by me in a previous article (MIND, N.S., No. 25), *i.e.*, as covering all the functions of the central nervous system.

ments of the sense-organs, and the afferent impulses to which these adjustments give rise.

(7) The existence in the brain of physiological dispositions or mental systems capable of being excited to activity by the stimuli: (*a*) the size and vigour of these systems; (*b*) the recency of their excitement.

(8) The constellation of foregoing states of the mind, especially, of course, those associated with any of the presentations striving to occupy the focus of consciousness.

(9) As a special case of the last, of primary importance in voluntary sensory attention, an idea of the object or similar object already present to consciousness, a 'preperception' as Lewes has called it.

(10) The emotional interest that the objects are capable of arousing, *i.e.*, their affective value.

(11) Fatigue of parts of the mind or of certain constituents of mental process.

(12) Vascular changes.

(13) Voluntary effort.

(14) The inhibition or depression of all mental processes save those concerned with the object of attention. This factor occupies a very special position as it is properly the correlate of the re-inforcement of the one presentation by some or all of the other factors, just as the negative pole of a magnet is the necessary correlate of the positive.

(15) A peculiar self-determining activity of the soul that can, as it were, give the casting vote and turn in this way or that the balance of the effects of the other contending factors.

As to this last factor, it may be confidently asserted that its reality can be neither established nor disproved by any expression of opinion however pious or philosophical, and that we can obtain evidence for or against the reality of this factor by one method only, namely, by the method of residues, that is to say, by the elucidation of the workings of all other factors and the demonstration that, when in any particular case their effects are fully allowed for, there still remains, or does not remain, an inexplicable factor through the influence of which the direction of attention is other than the resultant of the influences of all those known factors. We may therefore profitably leave the consideration of it on one side until such time as our knowledge of the other factors shall have made immense progress, merely keeping our minds open to the possibility of its reality.

Voluntary effort, though a factor of immense importance, is but a special complication of passive, spontaneous, or non-

voluntary attention,[1] and may also with advantage be left out of consideration as far as possible until the other factors shall have been elucidated, except in so far as the consideration of it will aid us in this task.

Of the other factors enumerated above it will be generally agreed that all play some part in different cases of attention. But as to the relative importance of these factors the greatest possible diversity of opinion prevails among authors, many authors assigning almost exclusive importance to one or other of them. And this must continue to be the case until we shall have made considerable progress with the third group of problems defined above, *i.e.*, until we shall have gained a much clearer insight than we at present possess into the mode of action of these factors. As to this last problem, which after all is by far the most important and essential of the three, it is no exaggeration to say that the attempt to solve it has as yet hardly been begun.

In dealing with the former part of the first problem, the definition of attention as a state of consciousness, the purely psychological methods sufficed, physiological considerations could be, and were, dispensed with as of little or no importance. As regards the second problem, our present very imperfect knowledge of the factors, the detection and partial definition of them, has also been achieved very largely by purely psychological methods. But for the solution of the third problem, and therefore for further progress with the second, physiological considerations are of the first importance. Perhaps no other problem presented by the mind so well illustrates the limitations of the purely psychological methods; and it is, I think, pretty clear that psychology if, in face of this problem, it disdains the aid of physiology, or from considerations of method rejects physiological implications, must remain for an indefinitely long time as it now is, *i.e.*, in almost complete ignorance. As Dr. Stout says: "We need some certain and definite physiological doctrine before we can make any secure advance on the psychological side".[2]

This is now very generally recognised, so much so that it is becoming usual for the psychologist to conclude his chapter on attention with some reflexions on the present unsatisfactory state of neurology. So far so good. It may

[1] Dr. Stout and Mr. Shand have distinguished voluntary, non-voluntary and involuntary attention. It is difficult to understand why Mr. Bradley has ignored distinctions so clear, useful and indisputably valid and has chosen to confuse the terminology once more in his recent article.

[2] *Analytic Psychology*, vol. i., p. 223.

be hoped, however, that this is but a preliminary step to the realisation of the fact that the pure psychologist must cease to be content with a one-sided and partial study of mental process and that, if he wishes to advance his science, he must descend into the dark places of physiology and become himself a neurologist. The pressing need for such all-round study of mental process is revealed by a review of the treatment of this third and most important group of the problems of attention by those who have approached them from the physiological and psychological sides respectively.

If we turn first to physiology and inquire, What has been contributed by it directly towards the solution of the problems of attention? we find that it is extremely little. So far as I can discover, all physiologists, in writing of the workings of the nervous system, have been content to regard attention as a faculty of the mind, quite in the old style. This does not necessarily mean that they regard it as a metaphysical entity, or even as anything incapable of being described in terms of physiological processes, but rather that, having no insight into it, they are content for the present to accept it as an unanalysed special form of mental activity whose effects may be invoked in explanation of various phenomena. Thus, Helmholtz is content to explain many of the phenomena described in the *Physiologische Optik*, by invoking the aid of Attention, and when he has done so he does not then seek to drive his explanation farther back. His treatment of the predominance of contours in the struggle of the two visual fields may serve as an instance; his explanation consists simply in the statement that the contours draw the Attention to themselves.

The most thorough and penetrating attempt to describe the physiology of mental processes is Prof. Exner's *Entwurf zu einer physiologischen Erklärung der psychischen Erscheinungen*.[1] Valuable and illuminating as is this work throughout, we find that, in his chapter on Attention, Exner like Helmholtz accepts Attention as an influence mysteriously given from above, and seeks only to explain how, this influence being given in this or that direction, it affects the workings of the lower nervous centres. In this respect the diagrams in the book are illustrative of Exner's procedure throughout; all the lines representing paths of communication of the lower centres with the higher parts of the brain begin abruptly on the upper part of the page and run down-

[1] Vienna, 1894.

wards to the lower centres that they have to influence, like so many telegraph-wires coming down from heaven.

Again, in that very interesting recent work by Prof. Goldscheider, *Die Bedeutung der Reize in Lichte der Neuronlehre*,[1] we find a similar attitude adopted towards Attention; it may be well illustrated by the following quotation: "The relation of hyperæsthesia to the attention is a reciprocal one; the hyperæsthesia draws the attention to the disturbed part by means of the strong and unaccustomed sensations, and the attention in turn increases the hyperæsthesia, and is indeed capable of inducing hyperæsthesia. In what attention consists we do not know, but it is certain that it is capable of intensifying sensations."

Of the psychologists proper who have dealt with these problems Prof. G. E. Müller did pioneer's work[2] many years ago, but at the time his paper was written comparatively little was known of the structure of the nervous system, and Müller himself would presumably regard the views advocated as in need of much modification. The central idea insisted upon was that voluntary attention consists in the favouring or augmentation of one group of nervous excitations out of all those obtaining at any moment, so that they act with greater vigour upon the soul, this being effected by adjustment of the sense-organ concerned, and by a voluntary excitement of those sensory paths by means of which the stimulus attended to is brought into relation with the soul.[3] Müller treats very shortly of non-voluntary attention, and distinguishes five factors that by favouring any one sensory impression may cause it to act upon the soul to the exclusion of others and so be attended to, namely, intensity, suddenness, and large spatial value of stimulus; the likeness of the sensation, that the stimulus seeks to produce, to the idea present to the soul; the previous excitement of ideas associated with the sensation.

Prof. James[4] makes the cheery statement that two physiological processes seem capable of giving a complete explanation of the intimate nature of the attentive process, namely, adjustment of the sensory organs, and the anticipatory preparation from within of the ideational centres concerned with the object; and he casually mentions inhibition as a third factor of little moment. This is exactly Müller's doctrine over again. Now it is undoubtedly true that these two

[1] Leipzig, 1898.

[2] *Zur Theorie der sinnlichen Aufmerksamkeit*, Leipzig, 1873.

[3] *Ibid.*, p. 48, etc.

[4] *Principles of Psychology*, 1891.

factors are of primary importance in the very special case of voluntary, expectant, sensory attention. But this being granted, very much of the intimate nature of the process remains unexplained even in this very special case. To mention only two points, Why can we attend to the one object only? Why can we not continue to attend to the one object in one way for more than a moment? A still more important deficiency of this 'complete reply' is the fact that the essential problem of the determination of the direction of attention is avoided by assuming the direction to be given by an act of will; and later in the chapter James shows that he has not fully grasped the nature of the problems to be solved by offering, as alternative views of the process of determination of direction of attention, the assumption of an undetermined activity of the soul and the view that "Attention only fixes and retains what the ordinary laws of association bring 'before the footlights' of consciousness". Now it is just this assumption of the all-sufficiency of the ordinary laws of association to account for the direction of the movements of attention that has obscured for so long the essential problems.

Prof. Münsterberg, in his chapter on the association-theory,[1] very rightly insists on this insufficiency of it to account for the movements, the direction and the scope of mental process. He points out that this insufficiency of the association-theory has provoked by a natural reaction the theory of apperception, in the sense of an undetermined activity of the soul, and he proclaims that what is sorely needed is a theory that shall so supplement the association-theory as to enable it to deal with all those features of mental activity which this apperception-theory would remove from the reach of our understandings. He writes: "On the one hand we have still no physiological substratum for those variations of the psychical element which are not included in the changes of kind and strength; especially the change of activity (*Lebhaftigkeit*) from the penetrating power (*Eindringlichkeit*) of that to which attention is directed down to the disappearance point of that which is inhibited, is still without physiological basis".[2] And again: "On the other hand we still lack an insight into the mechanism which achieves the selection of the psycho-physical excitations".[3] Which two defects he sums up in the phrase "Wir entbehren eine Psycho-physik der Lebhaftigkeitswerte". Münsterberg then develops his '*Aktions-*

[1] *Grundzüge d. Psychologie*, Leipzig, 1900.
[2] *Op. cit.*, p. 525. [3] *Op. cit.*, p. 526.

theorie' which is essentially a theory of attention. He assigns, as the physiological equivalent of the *Lebhaftigkeit* of any presentation, the energy of the efferent outflow of the excitation-process from the parts of the brain concerned: "Je vollständiger die Entladung, desto lebhafter die Empfindung". He then points out that practically all motor mechanisms are grouped as pairs of antagonists, the activity of one member of each pair tending to inhibit the activity of the other member of the pair, and proceeds: "The 'action-theory' assumes, now, that this undeniable opposition of motor functions is the real basis for all reinforcing and inhibiting, facilitating and blocking, in short, for all antagonistic functions of the nervous system, and so all strengthening and suppression, selection and diversion of the psycho-physical processes rests upon this opposition of motor activities".[1]

Now, while we may agree that here is a possible explanation of the inhibitory aspect of attention, it is not easy to see that the reinforcing aspect is accounted for; in fact reinforcement becomes merely a negative function, it means merely the absence of inhibition.

Again, my observations on the mutual or reciprocal inhibitory actions of visual images[2] seem to show that relations of inhibition and antagonism between the nerve-processes are not confined to those of the motor side of the nervous system.[3] It is a further objection to this scheme that it would seem to account for inhibitions within closely allied groups of activities only, and it is difficult to see how it can be extended to explain inhibition exerted by a process in one sense-province on one that tends to occur in a different sense-province and to give rise to a motor outflow directed towards a completely different group of muscles. Again, there seems to be no sufficient place in this scheme for the indisputably important part played by mental dispositions or systems in determining the direction and the degree of attention, and no place for the influence of the constellation of foregoing ideas and images.

Another very serious objection to this theory is that it assumes that the excitation-process, set up by any stimulus applied to a sense-organ, flows through the same system of conduction-paths, whether the impression be attended to or falls in the field of inattention. And an equally serious objection may be stated as follows: Since *Lebhaftigkeit* is

[1] *Op. cit.*, p. 534.

[2] MIND, N. S., vol. x.

[3] Similar evidence has been brought forward recently by Dr. G. Heymans in his papers, "Untersuchungen ü. psychische Hemmung," *Zeitschrift f. Psychologie*, Bd. 21 and 26.

regarded as a function of the ease with which the excitation-process passes through and out of the cortical conduction-paths into the subcortical motor centres, and since a process, when through repetition it becomes automatic and ceases to be accompanied by clear or lively consciousness or to be easily inhibited by other activities, is certainly carried on easily and in relatively unobstructed paths, Münsterberg is driven to make the unwarranted assumption that all automatic processes are subcortical, that when a process becomes automatic it is in every case because new paths have been formed in the subcortical regions, by which paths the whole process is effected, the cortical paths ceasing to be excited. Now, while it is impossible to deny that this may be the nature of the process of becoming automatic in some cases, especially perhaps in those simplest instances presented by reaction-experiments, it is, I think, impossible to accept it for all or most cases. I have argued this point in a previous paper[1] and will not dwell on it here, but will mention only two objections. In the first place, we have not in the subcortical regions, mapped out as they are into reflex and instinctive mechanisms, a sufficient anatomical basis for the carrying out of such an immensely complex process as the playing of a complicated piece of music by a practised pianist, his movements being guided by a rapid succession of complex visual, auditory, and kinæsthetic impulses, and yet this process may by much repetition become automatic. Again, the evidence afforded by lesions of the cortex is all against this view. When the so-called motor-cortex has been removed, skilled acquired movements are lost; and even in animals, whose skilled movements are mostly inherited, an effect of this sort is perceptible; yet every highly skilled movement is, in large part at least, automatic. Münsterberg is fully aware of this necessary consequence of his theory, and therefore asserts, that "so long as the excitation must really pass to the cortex it will never become unconscious even through the most frequent repetition".[2] For this sweeping statement he adduces no tittle of evidence, nor do I believe that any evidence can be found to support it. It is on the contrary in flat contradiction to the well-grounded views of physiologists, and instead of detailing the evidence I will simply refer the reader to section vii., chapter ii., of the third volume of Sir Michael Foster's *Text-book of Phy-*

[1] "Contribution towards an Improvement in Psychological Method," MIND, vol. vii.

[2] *Op. cit.*, p. 542.

siology (seventh edition) which will repay a careful perusal in this connexion.

In discussing the mechanism of automatic actions, towards the close of this section, Foster and Sherrington make the following deliberate and well-weighed statement: "All the arguments which go to show that the distinctly conscious voluntary skilled movement is carried out by help of the appropriate cortical area, go to show that the cortical area must play its part in these involuntary skilled movements also. So that, as indeed we have already hinted, distinct consciousness is not a necessary adjunct to the activity of a cortical area."

Münsterberg's theory of the physiological mechanism of the attention-process is then in flat contradiction to the well-founded and decided views of physiologists. But it is not to be supposed that this fact will weaken the faith of its author in its validity. For Münsterberg takes a very high line in regard to physiological details, and in his view apparently it is the part of the psychologist to stride on ahead, guided only by the pure light of deductive logic, while the physiological facts must come tumbling after and fit themselves to his demands as best they may; it would seem in fact that, as he asserts in another connexion, "In this sense the facts must order themselves according to the theories and not the theories according to the facts".[1] Münsterberg even warns psychologists against the danger of concerning themselves too much with physiological and histological facts; and accordingly he explicitly refuses to attempt any definite view of the nature of the inhibitory process, and he writes very loosely of *Entladung* without attempting to define what it is that is discharged or from what place or structures the discharge takes place. Nevertheless he takes it for granted that the inhibition of an efferent discharge-process consists in a blocking of the outlets by which the discharge tends to take place, thus making another unwarranted physiological assumption which I shall have occasion to dispute at a later stage of this essay.

And Münsterberg's assumption of a logical superiority of standpoint that raises him above the need of closely adjusting his theories to physiological demands seems particularly unjustifiable in face of the fact that most of what is new and suggestive in his '*Aktions-theorie*' is due to the direct application of recent physiological discoveries, namely Prof. Sherrington's discovery of the relations of reciprocal innervation' of antagonistic muscle-groups.

[1] *Op cit.*, p. 406.

I venture, therefore, to protest against this high and mighty attitude of the psychologist towards physiological details. To my mind there is something a little absurd in the exalted opinion of the capacity of the human intellect that Münsterberg seems to share with most philosophers. If we accept the doctrine of biological evolution, must we not regard the human mind as an instrument developed for the better dealing with practical difficulties of the bread-and-cheese order? How then should it be capable of going before the facts otherwise than in fear and trembling and in all humility? Were it not better that even the psychologist should place his chief reliance on the inductive method? And this my somewhat Philistine attitude is but confirmed by the perusal of this brilliant volume, for it appears that the validity of the author's way of looking at matters psychological is contingent upon our lack of an instrument that would enable a man to view his own brain-processes, and that, so soon as an instrument shall have been devised by means of which this feat can be accomplished (which may well happen at any time in the next hundred years) Prof. Münsterberg will have to pack up his psycho-physical parallelism and all his logical demands and will have to set out to seek a new philosophical standpoint. (See pp. 424 and 426.)

One other attempt to express the nature of the physiological state correlated with attentive consciousness must be noticed. In the just now published second half-volume of his *Grundzüge der Psychologie*, Prof. Ebbinghaus devotes five pages to the consideration of this problem. The essence of his suggestion is that the idea, the preperception of James and Lewes, involves the excitement of a definite path or system of paths in the cerebral cortex, so that on the incidence of an appropriate sensory stimulus the excitation-process confines itself to the relatively narrow and well-defined conduction-path while in the absence of such conditions favouring the concentration of one group of excitation-processes, the various groups of excitation-processes act upon one another by facilitations and inhibitions to produce a diffuse and ineffective excitation of an ill-defined area of the cortex.

This review[1] of the attempts that have been made to

[1] No review of contributions to the physiology of attention should omit to make mention of the valuable but very partial views of Prof. Ribot, and of Dr. H. Lange, but I have not thought it necessary to consider their views more nearly because these authors have not attempted to deal with the physiological processes in the intimate way that seems essential if further progress is to be made, partly also because I shall

elucidate the intimate nature of the physiological factors of the attention-process, brief and imperfect as it is, will yet suffice to show how extremely little progress has yet been made and to emphasise the fact that the first step must be to form a conception, as clear and definite as possible, of the physiological state underlying attentive consciousness, to translate, in fact, our psychological definition into physiological terms. And any such attempt must start almost 'with a clean slate,' for the physiologists have not yet seriously concerned themselves with the problem, and, of the few suggestions from the side of the psychologists, Münsterberg's, as we have seen, appears to be untenable, while those of Ebbinghaus and of James, though undoubtedly on the right lines, are very vague and carry us but a little way, in fact hardly advance us beyond the doctrine set forth by Müller at a time when our knowledge of the anatomy and physiology of the nervous system was relatively meagre.

This question, like most other psychological questions, has suffered much from the neglect of authors to make themselves clear as to the meaning of the terms they use, especially as to whether the terms used denote purely psychical, or purely physiological processes and states. In order to avoid this source of confusion, as far as in me lies, I declare at the outset that I accept, and shall speak in terms of, the hypothesis of interaction between psychical and physiological processes. Of course, if one accepts the now so popular hypothesis of psycho-physical parallelism, one may hope, and must strive to bring it about, that the whole of the factors of the attention-process may be described in physiological terms; but if we accept "interaction" and believe that there are psychical effects produced within the soul by interaction of the processes determined in it by physiological processes, we must still regard the elucidation of the physiological factors as our first business. For the occurrence of modification of the physiological processes by the reaction of psychical processes upon them can only be established by that method which I have spoken of above as the method

have occasion to refer to them later. I have said nothing of Prof. Wundt's theory because it seems to me that what is sound in that theory, namely the reinforcing influence assigned to the afferent impulses from the muscles concerned in adjusting the sense-organs, is common to many authors, while the characteristic feature of the theory, the assumption of an organ of apperception of which the essential function is the physiological inhibition of all excitations save those concerned with the object attended to, this assumption of an organ of inhibition seems to me to be exactly parallel to the old-fashioned assumptions of mental faculties as principles of explanation and to be subject to all their disabilities.

of residues; just as we can only establish or disprove the occurrence of an undetermined activity of the soul by first discovering all other factors, and then showing that there remains, or does not remain, an inexplicable residue, so we can hope to prove the reality of a determined activity of the soul, (*i.e.* an activity, proceeding according to its own peculiar but definite laws, by which it reacts upon the physiological processes), only by elucidating first the purely physiological factors, showing then that the effects are not completely accounted for, and that there remains a residue of effect that can only be explained by the assumption of a true psychical activity.

I shall therefore confine myself in this paper to the attempt to throw light on the physiological factors of the attention-process, and I shall deal chiefly with the processes of non-voluntary sensory attention, for this is, as Prof. Ribot writes, "the true, primitive and fundamental form of attention".[1] As I have shown above, we have as yet no satisfactory account of the physiological state that underlies the state of attention, the psychological description of the state has not been translated into physiological terms.

Such a translation, the drawing up of a clear and definite working scheme of the physiological state, must precede any attempt to describe the factors that are concerned in bringing the state into existence. When I first set myself to this task I was confronted with the necessity of undertaking a further preparation of the ground; I realised that it was necessary to formulate some definite view of the nature of neural processes in general, a view that should be as far as possible in harmony with all the physiological data and that should lend itself well to the description of the states and processes underlying our states of consciousness. For it is unfortunately true that no such view has been generally accepted by physiologists, nor have I been able to discover that any such view has been even formulated. Physiologists, as it seemed to me, have been too intently occupied with the attempt to exhibit the relation of nervous processes to the physical processes that occur outside living tissues and that have been so successfully studied, and there seemed to be urgent need of a scheme which, accepting the essential form of energy developed in neurones as *sui generis*, should describe it as fully as possible in terms of its own behaviour.

I have therefore proposed a scheme of this nature in a

[1] *Psychology of Attention*, p. 2.

paper recently published,[1] and I must ask to be allowed to refer the reader to that paper for the physiological, histological and other experimental evidence on which it is based and for the separation of fact from fable, which I do not stop to indicate here. Here only a brief outline of the scheme need be given. My scheme extends to the cell bodies of the neurones and to all their processes the 'theory of similarity of function' that is accepted by most, in fact by almost all, physiologists as true for their axis-cylinder processes;[2] and it assigns to the intercellular substances which, lying between the terminations of fibrils of different neurones or between such terminations and the bodies of other neurones, constitute the most essential parts of the synapses (or junctions of neurones), all those specific changes which are the psycho-physical processes proper, the immediate physiological correlates or determinants of psychical effects; and it regards them also as the principal seats of those resistances, varied and variable in degree, which determine the passage of the excitation-process in this or that direction and confine it to relatively well-defined and narrow paths among the labyrinth of innumerable paths possible to it in the absence of such limiting resistances. In brief outline the scheme runs as follows: The constituent neurones of the nervous system with all their branches are regarded, '*in primitivster Weise*' as Münsterberg says, as a vast system of channels in all parts of which potential chemical energy is constantly being transformed, in virtue of the normal vital activity of the neurones, into a peculiar form of active energy. This energy, which in the present state of our ignorance, can be most profitably regarded as a fluid, tends always to flow, like heat, electricity or water, from places of higher to places of lower potential, following the paths of least resistance, and for convenience of description it may be called 'neurin'. Under the influence of stimuli the neurones generate neurin more rapidly at a rate proportional to the intensity of the stimulus. In the sensory neurones, which, being connected with the surfaces of the body or with muscles, tendons, joint surfaces, etc., within it, are perpetually played upon by stimuli of varying intensities, the potential of neurin is maintained at a relatively high level, while from the motor neurones it escapes readily

[1] "The Seat of the Psycho-physical Processes," *Brain*, Winter 1901.

[2] A distinguished exception is Prof. Hering who in a recent pamphlet (*Zur Theorie der Nerventhätigkeit*, Leipzig, 1899), advocates a view the extreme opposite of this one; while he would attribute 'specific energies' to all neurones and to all their parts, I would assign them to the intercellular substances at the synapses only.

into the muscles, acting upon them as a stimulus to increased metabolism; therefore neurin flows perpetually through the intricate labyrinth of paths that constitutes the central nervous system from the afferent towards the efferent neurones. But the channels along which it has to find its way are not completely or equally open; while each neurone presents throughout its length, dendrites, cell-body and axone, an open channel offering no resistance, each is separated from all others with which it is functionally connected at synapses by an intercellular substance which presents a certain resistance to the passage of neurin from one neurone to another. In the resting state, as during deep sleep, neurin flows slowly and equally through all parts, maintaining in some degree the tonus of the nervous and muscular systems, and escapes across the resistant synapses by a sort of leakage. But, when a definite supraliminal stimulus is applied to a sense-organ, the sensory neurones affected by it produce neurin much more rapidly than it can escape by leakage across their efferent synapses, so that the potential of their charge very rapidly reaches what may be called the level of the threshold of the synapses, *i.e.*, it reaches such a degree that a rapid discharge of neurin takes place through the intercellular substance of the synapses into efferent neurones,[1] *i.e.*, into neurones of the second of those several layers in which the neurones leading from sensory to motor organs are arranged. The sudden arrival of the charge of neurin in neurones of this layer acts upon them in turn as a stimulus to the rapid production of neurin, so that they in turn become rapidly charged up to the level of the threshold of their efferent synapses and in turn discharge themselves into neurones of the third layer, and so on, until the neurones of the motor layer discharge themselves into the muscles and so bring about a contraction. If the stimulus continues to excite the same sensory neurones this whole process of charging and discharging of the chain of neurones is repeated again and again at very short intervals of time, in the case of the motor neurones at intervals of about one tenth of a second, at considerably shorter intervals in the case of the sensory and central neurones. An important factor in maintaining the onward flow of neurin from sensory to motor side is the valve-like nature of the synapses in virtue of which they permit the discharge of neurin in the

[1] It is convenient to speak of each neurone in any chain of neurones forming a conduction-path from sense-organ to muscle as afferent to its successor and as efferent to its predecessor in the chain.

forward direction only, *i.e.*, from a relatively afferent to a relatively efferent neurone, and not at all, or only under exceptional conditions, in the reverse or backward direction. And to the passage of the discharge in the forward direction the synapses present very various degrees of resistance, or, as it may be more conveniently expressed, they have thresholds of very different values.

The normal degree of resistance offered by the synapses of any conduction-path is the expression of what may be called the degree of organisation ('*Ausschleifung*' of German authors) of that path, organisation being the more or less permanent effect of repeated activity of the path; that is to say, each passage of the discharge across a synapsis results in some diminution of the resistance offered by it, in a lowering of its threshold. The paths of the highest degree of organisation are the old-established reflex conduction-paths of the cord and subcortical centres in general, while those of successively higher levels are, roughly speaking, of lower and lower degrees of organisation, *i.e.* are composed of neurones connected together by synapses of higher degrees of resistance. Every synapsis has thus a certain normal threshold-value in the unexcited state of the conduction-path of which it forms a part, which value has been determined by the history of that synapsis in the individual and in the race. But the threshold-value of any synapsis varies from moment to moment according to the state of the neurones between which it forms a link. When their vital activity is at a minimum, and the potential of the charge of neurin in them therefore also at a minimum, the resistance of the synapsis is at its highest; but any increase of the potential of the charge of neurin in either neurone, that on the afferent or that on the efferent side of the synapsis, so affects the intercellular substance as to diminish its resistance, *i.e.*, the threshold of the synapsis is lowered in proportion to the potential of the charge of neurin in either neurone, so that as this potential rises the synapsis-threshold is depressed to meet it, as it were. And when the discharge or series of discharges has taken place the threshold returns nearly *but not quite* to its former resting value. The synapses of highest resistance are those of which the thresholds are subject to the greatest variations of level produced in this way, while those of which the resistance is normally low can be subject to such changes in a much less degree only.

Besides these frequent and rapid variations of the threshold-values of the synapsis, produced by the variations in the potential of the charge of neurin in afferent or in efferent

neurone, or in both, there occur other considerable variations due to changes in the intercellular substance produced by fatigue, by drugs, and probably by changes in the state of the circulation and in the character of the blood.

It will be seen, then, that this scheme is an attempt to develop and to render more definite that view of neural process which Prof. v. Kries[1] has well called the 'conduction-hypothesis' in distinction from the other widely accepted view, the hypothesis of the individual psychical functioning of the bodies of nerve-cells. According to this scheme every psychical state corresponds to the flow of neurin through a certain set of neurones which form a group of conduction-paths leading towards the motor organs, which paths may lie in widely separated parts of the central nervous system and together form a complicated pattern in three dimensions of space, a pattern that continually changes from moment to moment as the stream of consciousness changes; and of the total process the immediate correlates or determinants of consciousness, the physical processes in direct interaction with the soul, *i.e.*, the psycho-physical processes, are processes that occur in the intercellular substances at the synapses as neurin is discharged through them from afferent to efferent neurones. The discharge of neurin through each of the synapses of those parts of such a complex system of paths which lie within the cortex of the cerebrum contributes a specific element to the total state of consciousness, an element that may perhaps vary in intensity but is constant in quality.

This scheme is based on physiological facts, many of which are detailed in the paper mentioned above,[2] and I hope to be able further to justify it by showing that it is well suited to aid us in the description of the physiological changes involved in mental processes.

I would point out that my conclusion as to the seats of the psycho-physical processes is not an essential part of the scheme, so that, if that conclusion be rejected, it will still be necessary to regard the synapses as the seats of those variable resistances which define and regulate the paths followed by any excitation-process, the scheme may still serve as a useful instrument of description, and the validity of most of the following descriptions will not be diminished.

When the above view of the nature of neural process is

[1] *Uber die materiellen Grundlagen der Bewusstseins-Erscheinungen* Leipzig, 1901.

[2] *Brain*, 1901.

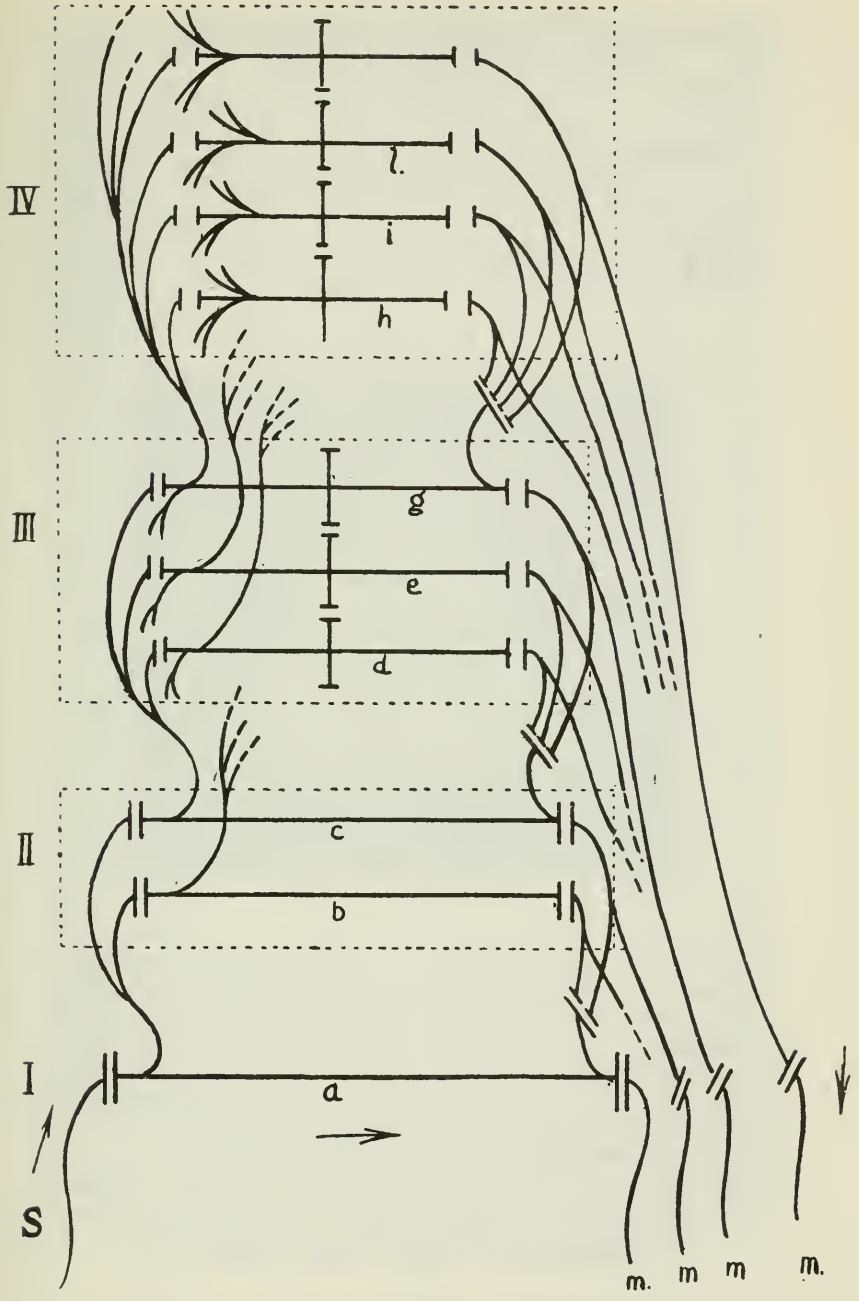


FIG. 1.

Diagram to illustrate the number and relations of the various paths within the brain, through which the excitation-process, initiated in the sensory neurone S may propagate itself to various motor neurones M, M.

combined with the current view of the anatomical arrangement of neurones and chains of neurones, we see at once the outline of the physiological definition of the state of attention. The neurones of the whole nervous system may be regarded as arranged to form series of superposed arcs, *i.e.*, conduction-paths of different levels leading from sensory to motor neurones. Of such levels Dr. Hughlings Jackson distinguishes three, and Prof. Exner[1] also distinguishes on physiological grounds three well-marked levels, besides minor varieties of reflex action, according to the degree to which consciousness is affected. These levels, with the exception of the two lowest, are not capable of accurate anatomical definition, but we may justifiably and profitably regard them as perfectly distinct layers or planes, and for psychological purposes we must assume, I think, at least four such levels. The lowest level may be taken to include all the spinal and subcortical centres, the second to include those parts of the cerebral cortex which Prof. Flechsig[2] distinguishes as the sensory areas, while the higher-level paths must be assumed to be the chief constituents of the parts which are distinguished by the same authority as the association-areas. We may then adopt as the simplest possible working scheme of the nervous system that represented diagrammatically in figure 1. In this are indicated the various paths of four levels by which the excitation-process initiated in one sensory neurone S may find its way to the muscles. And, since it is essential, in thinking of the nervous system, to visualise in three dimensions of space, I have enclosed the neurones of each of the levels within a dotted line, each area so enclosed representing a plane that in a three dimensional diagram would be perpendicular to the plane of the paper. Each neurone is represented by a line joining two terminal strokes, and the apposed pairs of such terminals represent synapses. The value of the resting threshold of a synapsis is represented by the length of these strokes, the longer stroke representing the smaller degree of resistance and conversely. The lines joining any neurone obliquely represent afferent collaterals or other paths by which it may be excited through other sensory neurones than that one S in the diagram. The explanation of the significance of the short lines perpendicular to the bodies of the neurones will be found on page 345.

This diagram illustrates the following points :—

(1) A given sensory stimulus may excite any one or

[1] *Entwurf z. phys. Erklärung psych. Ersch.*, chap. ii., §5.

[2] *Die Localisation der Geistigen Vorgänge*, Leipzig, 1896.

more of a large number of different conduction-paths, and so may lead to a corresponding number of different motor outflows.

(2) The same motor outflow may be occasioned by various sensory stimuli.

(3) The excitation set up in any sensory neurone may penetrate to paths in any one of the four levels.

(4) The higher the level the greater is the number of possible paths.

(5) The higher the level of a path the higher is the resting threshold of its synapses, *i.e.*, the higher is its resistance in the resting state.

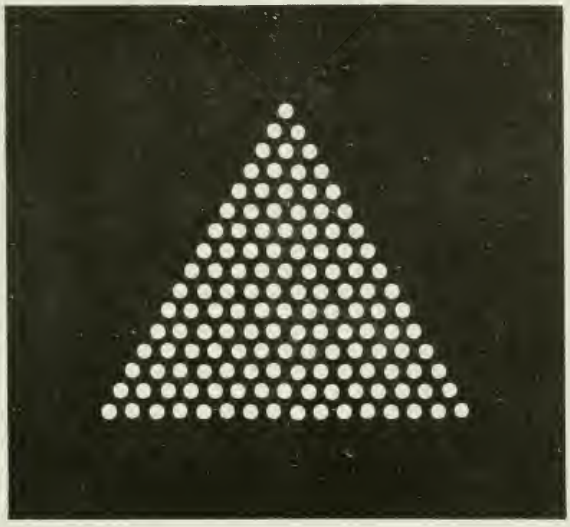


Fig. 2.

The diagram is in accordance with Dr. Hughlings Jackson's teaching, for it represents the four characteristics of the more highly and more recently evolved layers as laid down by him, namely, (1) "Increasing differentiation (greater complexity)"; (2) "Increasing specialisation (greater definiteness);" (3) "Increasing integration (greater width of representation);" (4) "Increasing co-operation (greater association)".[1]

The diagram may now be applied to the description of the neural events in the following comparatively simple case of sensory stimulation. Suppose figure 2 to be cut out and laid

[1] *British Medical Journal*, January, 1898.

upon a dark ground in a good light.[1] Then, when the optical image of it falls on my retina, it excites by a purely reflex action some degree of contraction of my pupil. This effect is produced by the excitation of the path of level i. So long as the figure is at all within my field of vision, it continues to produce this effect however little conscious or unconscious of its presence I may be.

Under ordinary circumstances the image will, if it falls upon a lateral part of the retina, cause (or tend to cause), a reflex turning of the visual axis of the eye towards itself, or, if it falls on the fovea of one eye, will cause a convergence of the two visual axes upon itself, and also a contraction of the muscles concerned in accommodation of the lenses, and it will at the same time produce some obscure affection of consciousness of the nature of a sensation of light localised in that part of the visual field. These effects are due to the excitement of a path (say *c*) of level ii superadded to the excitement of the path of level i.[2] But these effects are not so certain and invariable as the former effect, the contraction of the pupil, for if the light be very strong it may cause the eye to be turned away and the eyelids to close, a different path of level ii. (say *b*) being excited. The paths of level ii. are also liable to cease to be active under certain special conditions. Thus if my eyes continue for some time to be directed quite steadily towards the object; and especially if, at the same time, by instillation of atropine, or by other means, the accommodation mechanism be completely relaxed,[3] the image will disappear suddenly and completely from consciousness, thus exhibiting that curious phenomenon which I have described and called 'the complete fading of visual images';[4] and at the same time the reflex-influence, that guides the direction of the visual axes, ceases, as is shown by the tendency for the fixation to waver, which at once appears. When this happens it

[1] In the case of this and similar figures I have always used pieces of perforated zinc, blackened and laid against a sheet of white paper or glass fitted into an aperture in the window-shutter of a dark room, so that the figure is the only object in the visual field.

[2] In this connexion it is important to note that experiment has shown that direct stimulation of the visual cortex, the seat of the paths of level ii., may cause movements of the eyes independently of any activity of the area for eye-movements in the 'motor' region of the cortex, and the same is true of the superior temporal convolution, the auditory area, in regard to movements of ears, head and neck. (See Foster's *Text-book of Physiology*, pp. 1172, 1188.)

[3] Definition being preserved by the use of convex glasses.

[4] "Some New Observations in Support of Young's Theory of Colour-vision," sect. i., MIND, N. S., vol. x.

is because the excitation-process ceases suddenly to propagate itself through the paths of level ii.; it fails to overcome the resistance of the synapses of the path, that resistance having been increased by the fatigue due to continued activity of the tract,[1] while in all probability (though this is a point that I have not yet examined) the image continues to excite some degree of contraction of the pupil through the continued activity of the path of level i. It is characteristic of the paths of level ii. that the activity of any one path is not, under ordinary circumstances, markedly interfered with by the activity of other paths of the same level, or by the activity of paths of higher levels not directly connected with it. Thus a large number of objects scattered in different parts of the visual field may simultaneously affect consciousness in the obscure manner characteristic of paths of level ii.; and objects may continue to evoke appropriate movements of the eyes and a proper degree of accommodation, while my thoughts are occupied by matters entirely unconnected with the visual field, as when sometimes in reading my eyes follow faithfully all the lines of a page while my thought is occupied with quite other matters than those with which the printed page is concerned, and only on reaching the foot of the page do I become aware that I have taken in nothing of the meaning of either sentences or words.

Unless my attention is firmly held in other directions the visual object (figure 2) will usually give rise to a more definite affection of consciousness than the obscure sensation of light, it will be to some extent noticed or apprehended, if only as one of a number of visual objects, and it may be apprehended in any one of various ways. Thus I may apprehend it merely as a group of white spots on a dark ground, or as a triangular area with white discs scattered over it, or as an opaque perforated framework placed over a white ground. In any such case the excitation continues to excite level i. and path *c* of level ii., and penetrates also to one or other of the paths of level iii. which also leads to a certain motor outflow, complicating the motor effects due to the activity of the two lower paths. Now suppose I apprehend the figure as a triangular area with white discs scattered over it, and continue to gaze directly at it, one of the paths of level iii., say *g*, is then active, as well as paths *a* and *c*; presently, without any sense of activity on my part and without any movement of the eyes having occurred,

[1] For evidence of this increase of resistance of synapses during continued activity, see pp. 592-600 of my article in *Brain*, 1901.

the discs appear arranged in rows all parallel to the base of the triangle. The excitation has penetrated to one of the paths of level iv. (say *h*) and the activity of this path contributes to consciousness the peculiar constituent which, being superadded to the constituents contributed by paths *c* and *g*, consists in the awareness of this definite arrangement of the discs upon the triangle, and also leads to a further complication of the motor outflow, namely a tendency, which, in the absence of previous practice, can hardly be resisted, for the eyes to move along the direction of the parallel rows. I continue to gaze passively at the figure, and presently the discs suddenly rearrange themselves, they no longer appear as forming rows parallel to the base, but form rows parallel to the left side of the triangle. The path *h* has ceased to be excited, but another path, *i*, of level iv., is active and leads to a different motor outflow, namely a tendency to move the eyes in a direction parallel to the left side of the triangle. Presently, again, the discs assume a third arrangement, namely rows parallel to the right side of the triangle,—the excitation has passed to a third path, *l*, of level iv., deserting path *i*. These paths of level iv. constitute very simple yet true mental systems (in their physiological aspect) and the definite groupings of the discs in this and that way is due to successive acts of apperception of the sensory presentation by these mental systems in turn. Other groupings may appear, other mental systems, other paths of level iv. may become active in turn and cause the discs to be apperceived as forming concentric circles, or concentric triangles, or lines radiating out from a central disc. But the three groupings first mentioned, rows parallel to the sides of the triangle, predominate in my case, and they may continue to alternate with one another for a considerable period, no one holding the field for more than about one or two seconds, even if I make an effort to hold it fast. After a time my attention relaxes and spreads out, as it were; I no longer see any definite grouping of the discs, the figure becomes again merely a triangular part of the field with white discs scattered over it, the excitation ceases to penetrate to any of the paths of level iv., but continues to reach level iii. Then perhaps a voice draws my attention to auditory stimuli, and while my eye remains steadily fixed upon the figure (in virtue of a motor disposition formed by previous practice) its image ceases to excite paths of level iii, and, continuing to excite paths *a* and *b* only, it contributes to consciousness only the obscure and undiscriminated sensation.

And if, in virtue of the preformed motor disposition, my eye still continues steadily directed upon the same spot, path *c* may cease to be active, and the whole figure disappears from consciousness; or individual discs may disappear and reappear suddenly and completely, the different parts of the path *c* corresponding to the individual discs ceasing to be active for moments independently of one another.

The apprehension of the discs as parallel rows lying in this or that direction and in other groupings constitutes, I submit, a typical instance of non-voluntary attention, the same sensory presentation being variously apperceived by different mental systems in turn, mental systems that have been built up by previous experiences of horizontal parallel lines, of circles, of triangles, etc., respectively. And when, as it is easy to do, I voluntarily call up this or that grouping, the physiological state set up must be entirely similar. Lest any one should be inclined to deny that we can properly describe as a mental system (in its physiological aspect) a system of paths so relatively simple as those which may be supposed to be concerned in these different modes of apprehension of figure 2, I would point out that the case is exactly parallel with the cases of such ambiguous figures as Necker's cube and the well-known staircase-figure, in which cases the activity of well-defined and relatively complex mental systems will hardly be denied.

I shall have frequent occasion to return to this figure in considering the factors that determine these movements of attention and the direction of these movements, but here I am only concerned to define the state of attention in terms of physiological processes. We will consider, therefore, other ways in which attention may be given to this figure. Attention may be concentrated on one only of the discs, as when I judge whether or no it is exactly circular. All the other discs then fall into the field of inattention, and the excitation-processes initiated by them are confined to levels i. and ii. only, while only those set up by the one disc penetrate to higher levels and excite the paths which constitute the mental system for circles and which lead to a motor outflow that tends to move the eye around the circumference of a circle. Or again, attention may be concentrated on a still smaller part of the figure, as when I minutely examine the texture of the paper at the centre of one of the discs. Note that this concentration does not necessarily mean a narrowing of the paths excited; the width and complexity of the paths excited in the higher levels depends chiefly upon the degree of complex development of the mental

system to which the excitation penetrates. Thus, in the last instance, if I were a paper-maker by trade, the mental systems excited would be far more complex and extensive when attention was concentrated on a minute area of the paper than when the whole figure was attended to as regularly grouped discs; in the former case a small number only of the elements of the paths of level ii. propagate their excitement to higher levels, but in those higher levels the excitation-process spreads through a much wider system of paths.

We may conceive the physiological state underlying the state of attention in a similar manner for all classes of sensory presentations. Thus, at all times, or almost all times, during the day, a continuum of undiscriminated sounds affects my ear, causing through the excitation of various paths of levels i. and ii. an obscure affection of consciousness. Suddenly my attention is drawn to one of these sounds, and—to take a recent case from my own experience, —I apperceive it as the self-congratulatory clucking of a hen; the excitation set up by this particular auditory stimulus has penetrated to the higher levels and excited the mental system built up by previous experiences of such maternal rejoicings. I go on with my work and after a few minutes my attention is drawn to a sound which I take to be the voice of a hawker in the distance crying 'hokey-pokey'. But then by retrospection I discover that the same sound has been repeated at short intervals, while my attention was not given to it, and that what I previously apperceived as the voice of a hen I have apperceived a second time as the voice of a man; and now I hear it alternately as one or the other, the sound seeming to change in quality with each change of the mode of apperception, and I cannot convince myself of the truth of either mode. Here the same auditory presentation repeatedly exciting the same lower-level paths penetrates to two different higher-level paths, two mental systems alternately, just as was the case with the visual presentation of figure 2.

As parallel to the case of concentration of the attention on a small part of the visual field we may take the discrimination of an overtone. In this case a group of lower-level paths is excited by the clang, the complex of auditory stimuli, but the excitation of only one of these paths penetrates to a higher-level path and is therefore attended to and discriminated. Whereas, if the clang be attended to as a whole, be apperceived as a note of this or that instrument, all the lower level processes will combine to excite a single higher-level path, the mental system for this or that instrument.

We may now consider more intimately the characteristics of the higher- and lower-level paths respectively, and we may profitably confine our attention to the differences between paths of the levels ii. and iv. Paths of level ii. are characterised by the relatively great constancy and regularity of their response to sensory stimuli, by the vagueness of the contribution to the total state of consciousness that they effect, and by the fact that their activity is but little or not at all interfered with by that of higher levels and under ordinary conditions only in a slight degree by the activity of other paths of the same level. There is, however, some such reciprocal interference between different paths of level ii., for when, under the special conditions that I have described,[1] one visual sensation causes the total disappearance from consciousness of another visual sensation due to the excitation of another part of the same, or of a non-corresponding part of the other, retina, this must mean that the second image ceases to excite paths of level ii., and this would seem to be due to an inhibitory effect exerted by the other paths of level ii. excited by the first image; for attention to the first image does not seem necessary to the production of this effect. That the activity of paths of level ii. is in a high degree independent of activities of paths of higher levels may be realised by fixating figure 2 (preferably on a larger scale) and allowing the eyes to remain quite unmoved; one's thought may then range over any remote subject while nevertheless the white discs continue to affect consciousness in the obscure manner characteristic of level ii., and if, as may frequently happen when one's eyes have acquired the habit of stillness, one or more of the discs ceases to produce this obscure affection of consciousness, if, that is, it undergoes complete fading, one usually becomes at once distinctly aware of the change.

The paths of level iv., or higher-level paths in general, are characterised (1) by extreme inconstancy and irregularity of action, *i.e.*, even under the same constellation of sensory impressions different paths continually become active for brief periods of time and in turn quiescent, the degrees of resistance of these paths undergoing rapid changes through the influence of certain factors that we have to study; (2) by the clearness and definiteness that is given through their activity to the vague state of consciousness due to the activity of lower levels; (3) by the impossibility of simultaneous

[1] See 'Observations in Support of Young's Theory of Vision,' section ii., MIND, vol. x.

activity of different paths of level iv. shown by the fact that only one system of such paths can be active at any moment, *e.g.*, in the case of figure 2 it is impossible to see more than one kind of grouping of the discs in the same area at the same time, and it is impossible to see any one of the groupings if attention be otherwise occupied either with auditory or other sensory impressions or with any train of ideas not immediately related to the figure; (4) it is further characteristic of these higher-level paths or systems of paths that the form of the path is not intimately determined by the character of the sensory stimulus as is the rule with the paths of level ii.; thus when figure 2 is viewed from different distances or in different colours, the paths of level ii. must be different in every case, while, in all probability, the path of level iv. that is concerned in the apperception of the discs in any particular grouping is identical in such cases; the activity of this one path may be superadded to that of different lower-level paths.

The paths of level ii. are, then, in my view, the physiological bases of the undiscriminated sensation continuum; through them are effected those reactions which Dr. Stout has called sensation-reflexes.[1] Or they may be called the physiological bases of pure sensation; images that fall upon the peripheral retina and fail to draw attention to themselves, or upon the central retina while attention is otherwise occupied, or while I am only half awake and attention is at a minimum, such visual images give rise to an affection of consciousness that is as nearly a pure sensation as we, with our complex mental life, are capable of experiencing. And when some combination of factors brings it about that the excitation-process in any one set of these lower paths penetrates to paths of a higher level, the lower paths still contribute to the state of consciousness the same elements and determine the quality and the intensity of the sensation while the upper paths contribute those peculiar features which, being added to the sensation, convert it into a perception.

The power of thus penetrating to the paths of higher levels, determined by some or all of those factors which we have to study, constitutes the '*Eindringlichkeit*' of the presentation attended to; and the complexity of these upper paths, their numerous interconnexions, the extreme variability of the resistances presented by them, and the number of alternative paths that may be opened in turn to the

[1] *Manual of Psychology*, bk. ii., chap. ii.

excitation-process, are the physiological basis of the '*Lebhaftigkeit*' of the presentation and render "the sensation attended to more active, evoking such fusion and association as renders further understanding of the object possible".

I believe that we may introspectively distinguish the effects of the activities of the paths of different levels in the case of representation of a sensation just as in the case of its actual presentation through the sense organ. In the paper in *Brain* referred to above,[1] I have suggested that the essential physiological difference between a sensory presentation and its representation or reproduction in memory is that, whereas the former involves the passage of the excitation-process through the whole length of the conduction-paths concerned, from the sense-organ to the muscle, and therefore the discharge of neurin across all the synapses in the course of such a path, the latter, the representation, means that the excitement of the same paths is initiated in their central parts, so that only the synapses efferent or distal to the central neurones are the seats of the psycho-physical processes; that is to say, I regard the peculiar quality of reality as contributed by the psycho-physical processes of the synapses afferent to those central neurones, and its absence from the representation is thus accounted for. I take this to be true of the paths of level ii., but whether it holds for paths of other levels is less clear. It is, I think, doubtful whether the representation involves any re-excitement of level i.; I do not know that there is any evidence that, for example, the pupil contracts when we call up the idea of a bright light. And in the case of the paths of levels higher than level ii. it is possible that the psycho-physical processes underlying the representation are entirely similar to those excited by the presentation.

When I voluntarily call up the memory-image of figure 2, I may intend to see the discs arranged in parallel rows lying in this or that direction, and this intention involves a tendency for the eyes to be moved to and fro along this line of direction, this or that path of level iv. is re-excited and leads to its appropriate motor outflow. In the case of persons who do not visualise at all, this intention together with verbal imagery constitutes probably the whole of the representation. But, like all probably who visualise well, I can then by a further distinct voluntary effort call up the images of the white discs on the dark ground arranged in this or that fashion, *i.e.* the re-excitement spreads to the central neurones of the paths of

[1] *Brain*, 1901.

level ii. I can then at will throw the discs so visualised into any one of the various possible groupings, just as in the case of the actual image or after-image.

In a paper in this journal[1] I somewhat rashly suggested that all the undiscriminated elements or factors of our mental life should be regarded as purely physiological processes. This view has been criticised by Mr. Shand[2] and I accept in the main those criticisms so far as sensory presentation is concerned. In making that suggestion I was attempting to bring under one point of view things that do not really belong together. But I think that we must recognise a well-marked distinction in this respect between presentation and representation. Thus, just as I can take in at a glance a moderately complex visual object, so I can reproduce such a moderately complex object in memory, but if then I concentrate attention upon a small part of this representation there remains only the part attended to, this part is not surrounded by a field of undiscriminated parts, obscure sensation-elements, such as certainly remain when I concentrate attention on a part of the actual visual presentation. In the latter case, a certain constellation of conditions enables the excitation of one group of paths of level ii., out of many groups excited, to penetrate to higher levels; in the former case this one group alone is re-excited from above.

I have now defined the physiological state that underlies the state of attention, but to complete the physiological definition it is necessary to describe the changes involved in a movement of attention.

The forward passage of the excitation-process through some system of paths leading from sensory to motor neurones is the basis of what Prof. James has called the 'substantive parts' of the stream of thought. Our scheme enables us to assign in a rude way a physiological basis for the 'transitive parts' also, for those obscure 'feelings of relation,' of which the importance has been insisted upon by Herbert Spencer and James. Let us take again the very simple case of figure 2. The apperception of the figure as a triangle covered with rows of white discs lying parallel to its base means the flow of neurin through paths *a*, *c*, *g* and *h* of figure 1. This state of things, giving rise to a substantive part of the stream of consciousness, may persist for a small fraction of a second only or for more than one second, and then occurs a movement of attention which results in my seeing the discs as rows parallel to one side of the triangle. This

[1] MIND, N. S., vol. vii. [2] MIND, N. S., No. 28.

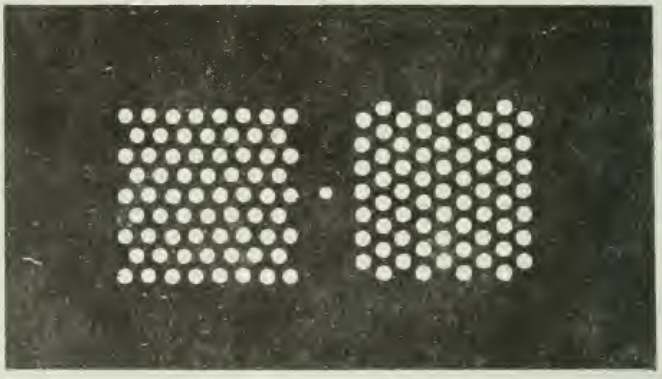
means that while neurin continues to flow through the paths *a*, *c* and *g* it no longer flows through path *h*, but by another path, *i*, of level iv. One or more neurones of path *h* instead of discharging in the forward direction has discharged in a lateral direction across a synapsis by which it is connected with a neurone of the same level, path *i*, this path having become the path of lowest resistance in level iv. and therefore the path of forward conduction. This lateral discharge is the psycho-physical process of which the psychical effect is a 'transitive part' of the stream of consciousness, which in this case can only be described as an obscure and somewhat confused feeling of change.

We must assume the existence of such lateral connexions between all neurones of any one level. It is the improvement or organisation of such lateral connexions that constitutes the physical basis of an association between two ideas, and such an association is set up by the movement of attention from one idea to the other, *i.e.*, by the discharge of neurin from the path subserving the one idea through such lateral connexions or synapses into the path subserving the other. In the case of the movements of attention that occur during fixation of figure 2 the resulting association manifests itself in the ease with which a similar movement of attention subsequently recurs on repeating the fixation.

When the movement of attention involves, not merely a change of the mode of apprehension of one object that continues to affect the sense-organ in the same way, but a change of the object also, the 'transitive part' of the stream of consciousness becomes much more prominent. Under ordinary circumstances such a movement of attention involves a readjustment of the sense-organ, and the feeling of this readjustment forms a prominent element of the 'transitive part'. But it is not an essential part, and it is instructive to study the change when this element is excluded as far as possible. This we may do with the help of figure 3.

I fixate the white spot in the centre of the figure and keep my atttention fixed on *b*, which I can achieve by voluntarily throwing the discs into vertical rows and into rows sloping to the right and to the left successively. While my attention is thus given to *b*, the impression made by the square *a* is in the field of inattention. While continuing steadily to fixate the white spot in the centre (and this I think can only be done as the result of an artificially acquired habit or motor disposition) I can then voluntarily turn my attention to *a* and apperceive it as rows of discs alternately horizontal,

sloping to the left and sloping to the right, while *b* ceases to be discriminated. This movement of attention involves not only a change in the distribution of neurin in the paths of level iv., as in the case of the simple movements that take place while the one square only is attended to, but also a redistribution in the paths of level iii.; the 'transitive part' of the stream of consciousness is therefore more prominent, and, the movement being a relatively difficult one, it may be of considerable duration, and for a short time I do not attend to or apperceive any part of the visual field, the clear awareness being replaced by a somewhat confused sense of strain and change that may seem to fluctuate uncertainly. In this case the organisation of lateral connexions by the movement of attention is shown by the greater ease with which



a FIG. 3. *b*

the movement can be effected after several repetitions; the movement of attention has established an association between its terms.

If now we assume that the neurones of any upper-level path, of any mental system, after forming the main path of forward conduction and after, in virtue of a movement of attention, discharging laterally into another path of the same level, continue to discharge neurin across these lateral synapses, returning only gradually to the resting condition, then we may see in this persistent but diminishing lateral discharge the physical basis of that which James calls the "felt fringe of relations" and which Stout calls the 'primary meaning,'[1] of that group of after-effects which renders the word at the end of a sentence so different to the same word standing alone.

[1] *Manual of Psych.*, p. 81 *et seq.*

We must distinguish, then, connexions between neurones, *i.e.*, synapses, of two orders; on the one hand, those which connect neurones forming a path of forward-conduction, —through these the discharge of neurin normally occurs in the forward direction only; on the other hand, those which form lateral connexions between neurones that are members of different forward conduction-paths,—through these the discharge may take place in either direction. Whether these two classes of synapses are sharply marked off from one another is not clear, but the well-established fact of exclusively forward-conduction in those which form parts of paths in the spinal cord, and the fact of the frequent cases of establishment between ideas of associations that work equally well in both time-orders, compel us to recognise such a difference in kind among synapses; for, however in detail we may picture the physiological basis of such associations, we must assume that it consists in paths through which excitement may spread equally well in both directions.

It seems probable that the differences of behaviour of synapses in respect to conduction in one or both directions are the effects of differences of use. If we make this assumption we can explain at once, (1) the valve-like action of the synapses of the paths of forward-conduction, for in these the discharge of neurin is normally from afferent to efferent side only; (2) the fact that if a series of presentations be frequently repeated in the same order the individuals become firmly associated in that order and only slightly in the reverse order, as with the letters of the alphabet or a series of nonsense syllables; (3) the fact that any two or more presentations that are repeated in contiguity in time, but in varied time-order, become associated in both orders equally firmly; (4) the fact that some individuals are able, after much practice, to reproduce so vivid an idea of an object that it becomes of the nature of an hallucination and hardly distinguishable from an actual sensory presentation of the object,[1] for in such cases the central excitation would seem to spread backwards to or towards the sense-organ, and so reaching the sensory neurones re-excite the whole chain of neurones constituting a path between sense-organ and muscle.

It will have been noticed that the view here adopted as to the nature of neural processes underlying our states of

[1] See especially the case of G. H. Meyer, quoted by G. E. Müller, *Zur Theorie d. Sinnlichen Aufmerksamkeit.*

consciousness has little in common with that widely accepted view which receives its most complete expression in Prof. Ziehen's *Leitfaden der physiologischen Psychologie.* That view, by assuming that memory-images, or rather the physical traces that condition them, are somehow deposited in the cell-bodies of neurones which are set aside as memory-cells, avoids, or rather refuses to face, the problem of the physical basis of memory which, it must be frankly admitted, is a serious difficulty for the conduction-hypothesis which I have adopted as the basis of my exposition. According to this hypothesis the physiological basis of a sensation, say the sensation aroused by the image of figure 2, is the onward flow of neurin through a complex system of paths from sensory to motor neurones, and the revival in memory of the image means the repetition of this flow from the central parts of the paths onwards to the motor neurones, the essence of the reproduction, so far as it is faithful, being that the same group of paths as was simultaneously excited by the sensation shall tend to be simultaneously re-excited. I have pointed out in a previous paper[1] that this tendency manifests itself in its simplest form in the case of complicated after-images, of which the contiguous parts of homogeneous areas are so associated together that they tend to affect consciousness simultaneously and more or less independently of other parts.

The problem of the physical basis of memory is, then, to discover wherein consists the physical disposition in virtue of which simultaneously excited paths tend to function again simultaneously. We must, I think, assume that simultaneous activity of paths of level ii. effects an improvement of conductivity of the lateral connexions between the neighbouring longitudinal elements of the conduction-paths excited by the sensory stimulus, that is to say, the simultaneous presence of charges of neurin in either of two neurones of level ii., which are laterally connected by a synapsis, must be assumed to increase in some degree the intimacy of their union at that synapsis, and it may be that there is always in such a case some lateral flow of neurin through such a synapsis. The physical basis of memory and that of association would then be regarded as fundamentally similar in nature, both consisting in diminished resistance or organisation of synapses.

This view of the physical basis of memory will appear less inadequate to the explanation of the facts if we bear in mind

[1] Mind, N. S., No. 39, p. 377.

the imperfect character of any memory-image resulting from a single glance at an object. The only tolerably accurate reproduction of a visual image so seen, seems to be the short-lived memory-after-image, and the accuracy of this must be attributed to a persistent activity of, or residual charge of neurin in, the nervous elements excited by the sensory stimulus. If however, we allow our eyes to wander over the visual object and attend first to one part then to another, the different parts become associated together in memory through these successive movements of attention in the way suggested above, and the memory-image becomes much clearer and its parts more definitely related. Our clearest memory-images, as those of the faces of our friends, are always the result of many such movements of attention, very varied in direction and extent and frequently repeated.

I have now completed in rough outline the scheme which represents in crude and diagrammatic fashion what I take to be the physiological states that underlie the state of attention, the substantive part of the stream of consciousness, and the movements of attention, the transitive parts of the stream. I have translated the psychological definition into physiological terms to the best of my ability. The scheme is founded in large part on the physiological evidence detailed in the article in *Brain*[1] and I hope further to justify it, in the course of this paper, by showing that it may be successfully applied to the description of the mode of action of the physiological factors.

If this scheme be approximately correct, the problem before us is to elucidate the working of those factors which bring it about that one organically connected system of paths in the higher levels of the brain shall at any given moment be the one, and only one, path of forward-conduction through those higher levels; or, to expand this statement of the problem, we have to seek answers to the following questions: (1) Why is it that at any moment the excitation set up in the lower levels by some one of numerous simultaneous sensory impressions penetrates to and excites an organised system of paths in the higher levels of the brain? Why does it not confine itself to lower-level paths of which the normal or resting resistance is lowest? (2) What determines this excitation-process to take this or that one of various alternative higher-level paths possible to it? (3) Why is it that, no matter how favourable the conditions and no matter how great a voluntary effort we may make, such a higher-level path does not con-

[1] *Brain*, Winter 1901.

tinue in activity for more than a very brief period? (4) Why is the activity of one such system of higher-level paths incompatible with that of others? that is to say, why can we attend to one object only at one time and to that object only in one way at one time? Can we in fact find a physiological basis for the narrowness and unity of consciousness?

I propose to take up in turn each of the factors enumerated on pages 317-318, and to endeavour to show how they may be conceived to play their part in determining the four effects mentioned above, dwelling more particularly on those factors in regard to which I believe myself able to contribute experimental evidence, drawn chiefly from the field of visual perception. In doing so I shall have occasion to describe certain observations which, it may be hoped, will not be devoid of all interest even to those whom I am unable to carry with me in my view of the physiology of the attention-process.

Note on 'Neurin'.

Since the appearance of my paper 'On the Seat of the Psycho-physical Processes' I have received a number of communications from correspondents to whom I wish to convey my hearty thanks for kindly criticisms. Several, in fact most, of them have protested against 'neurin' being described as a fluid; they tell me that I ought not to be content to regard it as a fluid. I am anxious to defend my way of representing 'neurin' because I believe that an important point of method is in question. In the first place I hasten to point out that, as I ought to have made clear in my former essay, I hope to justify this conception of a fluid 'neurin' by showing in the present series of papers that it is a good working hypothesis, *i.e.*, that it is a useful instrument of description. And I would point out that this objection seems to arise from a too confident belief in the objective reality of the distinction that we are accustomed to draw between matter and energy. It seems to be a deeply rooted infirmity of the human mind, or at least of the modern mind, that it can hardly conceive activities of any sort apart from material bases, so that in the case of those classes of phenomena in which no material carrier of energies can be discovered it has been found necessary to invent an ethereal or immaterial matter for the mind to work upon. Through habitually seeking to represent all phenomena in mechanical terms, in terms of the motion of little bits of matter, many of us have come to believe that in so doing we describe the actual events underlying phenomena. A remedy for this disorder of the intellect is now fortunately at hand and may be prescribed with good hopes of cure, namely, the perusal of Prof. Ostwald's *Vorlesungen über Naturphilosophie* (Leipzig, 1902). In this work the old problems of physics and metaphysics are treated with a surprising freshness and originality, and the superfluous and gratuitous character of the material bases is convincingly displayed. But in the course of his exposition Prof. Ostwald roundly condemns the use of working hypotheses and in reference to fruitful hypotheses of the past he asserts 'that without these hypotheses the discoverers would probably have accomplished more. The discoveries have been made not by means of, but in spite of, the hypotheses' (p. 215).

I venture to think that the form of the argument is unworthy of the author and that he errs in assuming that we are all demi-gods. It is true that when a great physicist declares an atom, or an ether, or an ethereal vortex-ring to be the most real thing known to him we must admit that hypothesis may become 'noxious nonsense'. But when Prof. Ostwald strips modern physics of its hypotheses and then declares that these hypotheses have been worse than useless, he seems to me like one who, having thrown down from a building already many storeys high the scaffolding that obscured its fair and reasonable proportions, proceeds to assert that because it stands firmly and looks so much handsomer without the scaffolding therefore it might *probably* have been built more rapidly without its aid. Neurology, I take it, is still in that early stage in which some concessions to the infirmity of our minds must be made, in which, in fact, working hypotheses may be of the greatest advantage, if not absolutely necessary aids to progress. And it seems to me that by regarding 'neurin' provisionally as a fluid we may reap the advantages without incurring the dangers of hypothesis. To those who may detect in 'neurin' a disagreeable flavour of vitalism I would repeat a remark recently made by Prof. Hering—'To-day the danger of premature and therefore inadequate physico-chemical explanations of the phenomena of life is greater than the danger that the conception of a vital force may be used as a comfortable halting place where the reason may be laid to rest on a pillow of obscure ideas' (*Zur Theorie der Nerventhätigkeit*, Leipzig, 1899).

III.—SYMBOLIC REASONING (IV.).[1]

By Hugh MacColl.

Pure, Abstract, or General Logic.

1. The simplest, the most general, and the most easily applicable kind of logic is the logic of *statements* or *propositions*. To this, and to this alone, can we correctly give the name of *pure logic*. Unlike all other kinds, it has the immense advantage of being independent of the accidental conventions of language. How dependent other systems are on linguistic conventions is shown by the importance they attach to the grammatical distinction between subject and predicate (see §§ 3, 4, 11). In pure logic (as I understand it) "A struck B" and "B was struck by A" are exact equivalents, and any symbol we choose to represent the one may also be employed to represent the other. So in mathematics. The statements "A is greater than B," "B is less than A," "A − B is positive," "B − A is negative," are all four equivalent; and any symbol, $A > B$, or $B < A$, or $(A - B)^P$, or $(B - A)^N$, used to express one of them, will also express any of the others.

2. Statements or propositions are the *indispensable units* of every argument. If one of these units be ambiguous or wanting in clearness, the validity of the argument becomes doubtful. We then discuss the meaning of this faulty unit, taking for our data the grammatical and other linguistic conventions of the tongue employed; and this discussion again must be carried on *by means of propositions*.

3. It is generally assumed that a proposition must consist of a subject and a predicate. That, however, is a matter of convention or definition. If I accept it, I must in my system make a distinction between the two words *statement* and *proposition*. Let me therefore define a *statement* as *any sound or symbol* (or collection of sounds or symbols) *employed to give information*. In this sense the warning "Caw" of a

[1] For III. see Mind, January, 1900.

sentinel rook, and the Union Jack floating from the mast of a passing ship, are statements. The former is equivalent to "Beware; I see a man coming with a gun"; the latter is equivalent to "This is a British ship". These are *elementary* statements—statements that cannot be separated into subject and predicate. In the evolution of human language, that division came later (see § 30).

4. A *proposition* I define as a statement of the form A^B, in which A is the subject, and B the predicate. Thus, every proposition is a statement; but every statement is not a proposition. Let A = Alexander, and B = baker. The proposition A^B asserts that *Alexander is a baker.* If we represent a proposition A^B by a single letter a, we may then (considering the *form* alone) say that a is a statement but not a proposition; whereas A^B, by our definition, is both (see §§ 3, 25). Let B_1, B_2, B_3, etc., be the separate individuals that constitute the class B. Then

$$A^B = A^{B_1} + A^{B_2} + A^{B_3} + \text{etc.}$$

That is to say (giving the same meanings to A and B as before), the statement that *Alexander is a baker* is equivalent to the statement that *Alexander is either Baker No.* 1, *or Baker No.* 2, *or Baker No.* 3, etc.

5. Let A = animal, and let B = brown; also let n be the total number of animals under consideration. Then the symbol $A_1^B A_2^B A_3^B \ldots A_n^B$ asserts that A_1 is brown, that A_2 is brown, etc.; that is to say, it asserts that *All the animals of our limited universe are brown.* The symbol $A_1^B + A_2^B + A_3^B + \ldots + A_n^B$, on the other hand, asserts that *one at least* of the animals (either A_1 or A_2 or A_3, etc.) is brown.

6. Let A_1, A_2, A_3, etc., be the individuals forming a class A; and let B_1, B_2, B_3, etc., be the individuals forming a class B. Out of the series A_1, A_2, etc., let an individual A be taken at random. The symbol A^B, on this hypothesis, asserts that A is also one of the individuals in the series B_1, B_2, etc. Hence, $A^{B\epsilon}$, which is an abbreviation for $(A^B)^\epsilon$, asserts that the statement A^B is a *certainty* (ϵ). Thus $A^{B\epsilon}$ may be considered as synonymous with the traditional "All A is B," or "Every A is a B". Similarly, $A^{B\eta}$, which asserts that A^B is impossible (η), is equivalent to the "No A is B" of the traditional logic; while $A^{B\eta\iota}$ denies this, and asserts that "*Some* A is B". In like manner, $A^{B\epsilon\iota}$ denies $A^{B\epsilon}$ (that every A is B), and asserts that "Some A is not B". The symbol $A^{B\theta}$ is equivalent to the combination $A^{B\eta\iota} A^{B\epsilon\iota}$, and asserts that A^B is possible but uncertain; that is, it asserts that

one A at least is B, but that every A is not B. Thus $A^{B\epsilon} = A_1{}^B\, A_2{}^B\, A_3{}^B \ldots A_n{}^B$, the number n being the number of individuals in the universe A_1, A_2, A_3, etc. Similarly we get $A^{B\eta} = A_1{}^{B\iota}\, A_2{}^{B\iota}\, A_3{}^{B\iota} \ldots A_n{}^{B\iota}$; that is, $A^{B\eta}$ asserts that A_1 is not B, that A_2 is not B, and so on till the last A_n. Hence

$$A^{B\theta} = A^{B\eta\iota} A^{B\epsilon\iota} = (A_1{}^{B\iota} A_2{}^{B\iota} A_3{}^{B\iota} \ldots A_n{}^{B\iota})^\iota\, (A_1{}^B A_2{}^B A_3{}^B \ldots A_n{}^B)^\iota$$
$$= (A_1{}^B + A_2{}^B + A_3{}^B + \ldots + A_n{}^B)\, (A_1{}^{B\iota} + A_2{}^{B\iota} + A_3{}^{B\iota} + \ldots + A_n{}^{B\iota}).$$

That is to say, $A^{B\theta}$ asserts, firstly, that one at least of the series A_1, A_2, A_3, etc., is B, and, secondly, that one at least is not B. Out of the n^2 terms in the product of the last two bracket-statements, n terms, namely, $A_1{}^B\, A_1{}^{B\iota}$, $A_2{}^B\, A_2{}^{B\iota}$, etc., may be omitted as self-contradictory; for $A_x{}^B$ (which is an abbreviation for $A_x{}^{B\tau}$) asserts that $A_x{}^B$ is *true*, and $A_x{}^{B\iota}$ asserts that $A_x{}^B$ is *false*. Thus the syllogisms *Barbara* and *Frissison* may be expressed respectively by

$$A^{B\epsilon}\, B^{C\epsilon} : A^{C\epsilon} \text{ and } C^{B\eta}\, B^{A\eta\iota} : A^{C\epsilon\iota}.$$

7. But a far simpler, more symmetrical, and more general way of treating the syllogism is to regard it from the point of view of pure or abstract logic. From this point of view all valid syllogisms are but particular cases of the general formula, or formal certainty (see §§ 31, 32)

$$(x : y)\, (y : z) : (x : z),$$

which I will represent by $\phi\,(x, y, z)$, or briefly ϕ, and which may be read "If whenever the statement x is true, y is true, and whenever y is true, z is true; then whenever x is true, z is true". It may also be read as "If x implies y, and y implies z, it follows that x implies z". The symbol ϕ (A, B, C) will then denote what ϕ becomes when any statement A is put for x, B for y and C for z (see § 12). Out of our universe of discourse, consisting say of the individuals P_1, P_2, P_3, etc., let an individual P be taken at random; and let the symbols A, B, C, as *statements*, assert respectively that P will belong to the class A, that P will belong to the class B, that P will belong to the class C; while A′, B′, C′ will be the respective *denials* of these statements. It is evident that, assuming[1] the existence of the classes A, B, C in our universe P_1, P_2, P_3, etc., and considering those syllogisms equivalent which have equivalent premisses and the same or equivalent conclusions, we shall have

[1] This assumption of existence is not necessary except in the case of Darapti, Felapton, Fesapo and Bramantip.

Barbara = ϕ (A, B, C)
Celarent = Cesare = ϕ (A, B, C′)
Darii = Datisi = ϕ (B, C, A′)
Ferio = Festino = Ferison = Fresison = ϕ (A, C, B′)
Camestres = Camenes = ϕ (A, B′, C′)
Disamis = Dismaris = ϕ (B, A, C′)
Baroko = ϕ (A, C, B)
Bokardo = ϕ (B, A, C)
Darapti = ϕ (B, AC, η)
Felapton = Fesapo = ϕ (B, AC′, η)
Bramantip = ϕ (C, BA′, η).

8. All these can be easily proved; but to show the method of bringing all within the sweep of the general formula $\phi(x, y, z)$, it will be enough to prove three, namely, *Fresison*, *Darapti* and *Bramantip*.

$$\begin{aligned}
\text{Fresison} &= (C : B')\,(B : A')' : (A : C)' \\
&= (C : B')\,(B : A')'\,(A : C) : \eta \\
&= (A : C)\,(C : B') : (B : A') \\
&= (A : C)\,(C : B') : (A : B') = \phi\,(A, C, B') \\
\text{Darapti} &= (B : C)\,(B : A) : (A : C')'.
\end{aligned}$$

But, since the classes A, B, C are understood throughout to exist in our universe P_1, P_2, P_3, etc., we have $\epsilon = A^{\eta\epsilon} = B^{\eta\epsilon} = C^{\eta\epsilon}$. Hence

$$\begin{aligned}
\text{Darapti} &= B^{\eta\epsilon}(B : C)\,(B : A) : (A : C')' \\
&= B^{\eta\epsilon}(B : CA) : (A : C')' \\
&= B^{\eta\epsilon}(B : CA)\,(A : C') : \eta \\
&= B^{\eta\epsilon}(B : CA)\,(AC : \eta) : \eta \\
&= (B : AC)\,(AC : \eta) : B^{\eta} \\
&= (B : AC)\,(AC : \eta) : (B : \eta) = \phi\,(B, AC, \eta). \\
\text{Bramantip} &= (C : B)\,(B : A) : (A : C')' \\
&= C^{\eta\epsilon}(C : B)\,(B : A) : (A : C')', \text{ since } C^{\eta\epsilon} = \epsilon \\
&= C^{\eta\epsilon}(C : B)\,(B : A) : (C : A')' \\
&= C^{\eta\epsilon}(C : B)\,(C : A')\,(B : A) : \eta \\
&= C^{\eta\epsilon}(C : BA')\,(BA' : \eta) : \eta \\
&= (C : BA')\,(BA' : \eta) : (C : \eta) = \phi\,(C, BA', \eta).
\end{aligned}$$

9. It is evident, since $x : y = y' : x'$, that $\phi(x, y, z) = \phi(z', y', x')$; so that all the syllogisms remain valid if we reverse the order of their constituents, provided we at the same time change their signs. For example, Camestres and Camenes may each be expressed, not only in the form ϕ (A, B′, C′), but also in the form ϕ (C, B, A′).

10. In the syllogisms, the statements A, A′, B, B′, etc., are understood to be abbreviations for the propositions P^A, $P^{A\epsilon}$, P^B, $P^{B\epsilon}$, etc., all of which have the same subject P, an

individual taken at random out of the universe of discourse P_1, P_2, P_3, etc. But in the general formula $\phi(x, y, z)$, of which all valid syllogisms are but particular cases, the statements x, y, z need not be understood to refer to the same subject. The formula $\phi(x, y, z)$ holds good whatever be its constituent statements x, y, z, which may, one and all, be *certainties*, *impossibilities* or *variables*. For example, take the case $x^\eta y^\eta z^\eta$, and suppose $x = \eta_1$, $y = \eta_2$, $z = \eta_3$, we get

$$\phi(\eta_1, \eta_2, \eta_3) = (\eta_1 : \eta_2)(\eta_2 : \eta_3) : (\eta_1 : \eta_3) = \epsilon_1\epsilon_2 : \epsilon_3 = \epsilon_4 ;$$

for $\eta : a = (\eta a')^\eta = \eta^\eta = \epsilon$, whatever be the particular impossibility represented by the symbol η out of the series η_1, η_2, η_3, etc., and whatever be the statement a. Next, take the case $x^\epsilon y^\epsilon z^\eta$. Assuming x, y, z to be respectively ϵ_1, ϵ_2, η_1, we get

$$\phi(\epsilon_1, \epsilon_2, \eta_1) = (\epsilon_1 : \epsilon_2)(\epsilon_2 : \eta_1) : (\epsilon_1 : \eta_1) = \epsilon_3\eta_2 : \eta_3 = \eta_4 : \eta_3 = \epsilon_4 ;$$

for, as before, $\eta : a = \epsilon$, whatever impossibility η may be out of the series η_1, η_2, η_3, etc., and whatever the statement a (see § 32).

11. There has been much discussion among logicians as to the "existential import of propositions," especially as to whether the proposition "All A is B" implies the existence of the subject A. The question does not appear to me to belong to the province of *pure logic*, which should treat of the relations connecting different classes of propositions, and not of the relations connecting the words of which a proposition is built up. The latter question is one properly of grammar and philology, and not of general or abstract logic. The answer depends upon the meaning we agree to give to the word *exist*. Take, for example, the proposition "*Non-existences* are *non-existent*". This is a self-evident truism; can we affirm that it implies the *existence* of its subject *non-existences?* In pure logic we have $\eta^\eta = \epsilon$, or more briefly $\eta^{\eta\epsilon}$, which asserts that it is certain that an impossibility is an impossibility. In pure logic the subject, being always a *statement*, *must* exist—that is, it must exist as a *statement*. It may be a certainty, an impossibility, or a variable—it may even (in the circumstances) be unmeaning; yet as a statement it always *exists*. But in pure logic we sometimes have to symbolise statements to which (in the circumstances considered) we can attach no meaning. Such statements belong, *not* to the class η, but to the class o. For example, A^η asserts that A is *impossible*—that is it *contradicts some datum or definition;* whereas A^o asserts that A, in the case considered, is a *meaningless* statement that affirms nothing

and contradicts nothing (see my recent memoir on "La Logique Symbolique et ses Applications" in the *Bibliothèque du Congrès International de Philosophie:* Librairie Armand Colin).

The Logic of Functions or Relations.

12. A symbol of the form $\phi(x)$ or $\psi(x)$ or $f(x)$, etc., is called a *function of x*. It denotes[1] any statement, or part of a statement, *containing the symbol x*. Similarly, $\phi(x, y)$ or $\psi(x, y)$, etc., is called a *function of x and y*. It denotes any statement, or part of a statement, *containing the symbols x and y*. The symbols $\phi(x, y, z)$, $\psi(x, y, z)$, etc., are to be interpreted in the same manner. The symbol ϕ_x or simply ϕ may be used as an abbreviation for $\phi(x)$. Similarly, $\phi_{x,y}$, or simply ϕ, may be used as an abbreviation for $\phi(x, y)$; and so on. The constituents x, y, z, etc., may each denote a word or collection of words or of other symbols; and they may (as generally with me), or may not (as in mathematics), separately represent complete propositions. When we have any function $\phi(x, y)$, then the symbol $\phi(a, \beta)$ denotes what $\phi(x, y)$ becomes when a is substituted for x, and β for y, *the other words or symbols remaining unchanged.* Similarly, $\phi(x)$ and $\phi(a)$, $\phi(x, y, z)$ and $\phi(a, \beta, \gamma)$, etc., are to be interpreted.

13. For example, let w = whale, h = herring, v = virtue: and let $\phi(w, h)$ denote the proposition "A small *whale* can swallow a large *herring*". Then $\phi(h, w)$ will denote "A small *herring* can swallow a large *whale*," the symbols w and h interchanging places, while the rest of the proposition remains unchanged. It is evident that this convention leads to the conclusion $\phi^{\epsilon}(w, h)$, $\phi^{\eta}(h, w)$. That is to say $\phi(w, h)$ is a *certainty* and $\phi(h, w)$ an *impossibility.* We also get $\phi^{\circ}_{\lambda}(w, v)$; that is to say, the statement that "A small *whale* can swallow *virtue*" is *meaningless.*

14. The symbols $\phi(x)$, $\phi(x, y)$, etc., may thus be regarded as *blank forms* to be filled up, the blanks being represented by x, y, etc., and the words or other symbols to be substituted by a, β, etc. A statement of the form $\phi(x, y, z)$ may be represented by $\phi(x)$ or ϕ_x when the substitutions for x only have to be considered; by $\phi(x, y)$ or $\phi_{x,y}$ when we have to

[1] The definition of a *function* given here is more general than that given of a function in mathematics; and it includes the mathematical definition. I employed the functional symbol $f(x, y, z)$ to denote the complex implication $(x : y)(y : z) : (x : z)$ in my second paper on the "Calculus of Equivalent Statements," published in the *Proceedings of the London Mathematical Society* in 1878.

consider the substitutions for x and y; and so on. When we speak of the *form alone*, without referring to any particular substitutions, we may denote the function simply by ϕ.

15. To show how dependent other systems of logic are upon mere linguistic conventions, which differ more or less in different countries, let us take the proposition "If A is the cousin of B, then B is the cousin of A," and denote it by ϕ (A, B). Translating this into French, let ψ (A, B) denote the proposition "Si A est le cousin de B, alors B est le cousin de A"; and suppose A to be a boy, and B to be a girl. We get the paradox ϕ^{ϵ} (A, B), ψ^{η} (A, B), which asserts that the English statement ϕ (A, B) is *certainly true* (ϵ), while its French translation ψ (A, B) is *certainly false* (η). For in French, "B est *le cousin* de A" implies that B is of the male sex, which is contrary to our data; whereas in English, "B is *the cousin* of A" implies nothing as to the sex of B.

16. Let ϕ_x, as an abbreviation for $\phi(x)$, denote the implication "If A is x of B, and B is x of C, then A is x of C"; and let a = an ancestor, s = a son, c = a cousin, h = the hat. We get $\phi_a{}^{\epsilon}\ \phi_s{}^{\eta}\ \phi_c{}^{\theta}\ \phi_h{}^{\circ}$. That is ϕ_a is certain, ϕ_s impossible, ϕ_c variable (neither certain nor impossible), and ϕ_h meaningless.

17. According to writers on the *Logic of Relations*, a relation is said to be *transitive*, when the combination of the two propositions "A has the relation R to B, and B has the relation R to C," implies the conclusion that "A has the relation R to C". Accepting this definition, and denoting the word *transitive* by T, and the proposition "R is transitive" by R^T, while the symbol $\phi_{x,y}$, or its equivalent $\phi(x, y)$, asserts that "x has the relation R to y," we may express the definition symbolically thus

$$R^T = \phi_{A,B}\,\phi_{B,C} : \phi_{A,C}.$$

But I think it would be simpler, as well as more general, to call, not the *relation* R but the variable *statement* or *function* ϕ, transitive, and to write the definition thus—

$$\phi^T = \phi_{A,B}\,\phi_{B,C} : \phi_{A,C} \text{ (see § 26)}.$$

18. Let ϕ_r denote the statement that "a has the ratio x to β," in which a and β (with all substitutes for them) are understood to be real positive magnitudes, neither infinite nor zero; in other words, let ϕ_r denote the equational statement $(a = x\beta)$, we get by definition of T (see § 17)

$$\phi_x{}^T : (\phi_{a,\beta}\,\phi_{\beta,\gamma} : \phi_{a,\gamma}) : (x = 1).$$

That is to say, if the statement which asserts that a has a ratio x to β be *transitive*, the ratio x must be *unity* (*i.e.*, a

ratio of *equality*), and α must be equal to β. When α is not equal to β, the statement is not transitive (see § 19).

19. The preceding may be proved as follows—

$$(\alpha = x\beta)\,(\beta = x\gamma) : (\alpha = x^2\gamma).$$

But since $(\alpha = x\beta)$ is, by hypothesis, transitive, we have also

$$(\alpha = x\beta)\,(\beta = x\gamma) : (\alpha = x\gamma).$$

Hence, from the logical formula (A : B) (A : C) = (A : BC) we get

$$(\alpha = x\beta)(\beta = x\gamma) : (\alpha = x^2\gamma)(\alpha = x\gamma) : (x^2\gamma = x\gamma) : (x^2 = x) : (x = 1)$$

for the supposition $(x = o)$ would contradict our hypothesis that neither α nor β nor γ is zero.

20. Considering the various ratios, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{7}{6}$, etc., as forming a special class of *relations*, the implication

$$(\alpha = x\beta)\,(\beta = x\gamma) : (\alpha = x^2\gamma)$$

may be read: "If α has the relation x to β, and β the relation x to γ, then α has the relation x^2 to γ". We have proved that when this relation (or the statement asserting it) is transitive, then $x = x^2$, and $\alpha = \beta = \gamma$, it being understood throughout that α, β, γ are real and positive.

21. *Ratio* is thus seen to be a particular species of *relation*. Before I attempt to give a *general* definition of the somewhat vague concept *relation*, let us examine another special case. Suppose ϕ_x to denote the statement "AxB" in which the variable x is to be replaced by some word or words, such as *strikes*, *was struck by*, *will speak to*, etc. Let s = struck, w = was struck by, α = will strike, β = will be struck by. Also, let ψ_x denote "BxA," what ϕ_x becomes when A and B interchange places. We get

$$(\phi_s = \psi_w)\,(\phi_w = \psi_s)\,(\phi_\alpha = \psi_\beta)\,(\phi_\beta = \psi_\alpha).$$

These four statement-factors are respectively synonyms of of (1) (AsB = BwA); (2) AwB = BsA); (3) (AαB = BβA); (4) (AβB = BαA). In the four statements ϕ_s, ψ_w, ϕ_α, ψ_β, A stands in the active relation of *striker* towards B, and B in the passive relation of *being struck* towards A; whereas in the four others these relations are reversed. The relations s and w are therefore reciprocal, and so are α and β. The four relations s, w, α, β, taken in pairs, have also relations to each other. The relations s and α are active, w and β passive; s and w are past, α and β future; s is the *active* of w, w is *passive* of s; α is *future* in regard to s, s is *past* in regard to α.

22. These, however, are but discussions on *particular* rela-

tions; whereas what we want is a definition of the word *relation* in its widest and most general sense (see § 26). Such a definition is not easy. To meet the requirements of logic, especially of symbolic logic, I propose the following: Let $\phi\ (x, a, \beta, \pi)$ and $\psi\ (y, \beta, a, \pi)$, or their abbreviations ϕ and ψ, denote two equivalent [1] statements which nevertheless differ in three things: (1) that (in *position*) x in the former corresponds to y in the latter; (2) that a in the former corresponds to β in the latter; and (3) that β in the former corresponds to a in the latter — the remaining constant portion π occupying the same position in both. These conditions being satisfied, x (or more strictly x, π) is called the *relation of* a *to* β; and y (or more strictly y, π) is called the *relation of* β *to* a. Also the relation x is called the *reciprocal* of the relation y, and the relation y is called the *reciprocal* of the relation x. We may express this reciprocity by $(x = ry)\ (y = rx)$, or by any other symbol suited to the particular investigation upon which we happen to be engaged. When $x = y$, the relation connecting a and β is said to be *symmetrical*.

23. A few concrete examples will help to explain this definition and afford some test of its accuracy. Let ϕ assert that A *has lent money to* B, *which* B *has not yet paid;* and let ψ assert that B *has borrowed money from* A, *which* B *has not yet paid.* Here the relation of A to B is that of *creditor*, and that of B to A *debtor;* but we must proceed as if these words had not yet been invented. Numberless relations exist for which single words cannot be found in any language, symbolic or natural, and our definition would be very inadequate if it left these, as yet uncondensed relations, out of account. Let, therefore, $x =$ has-lent-money-to; let $y =$ has-borrowed-money-from; and let $\pi =$ which-B-has-not-yet-paid. Also let $a =$ A, and let $\beta =$ B. It will be seen at once that the statements ϕ and ψ with their constituents x, a, β, π, satisfy the definition of § 22. The reciprocal relations are x and y,—or rather x, π and y, π; for the fact that A has lent money to B (or that B has borrowed money from A) does not necessarily, and without the accompanying constituent π, imply that A *is now* B's creditor, though it implies that he *has been* so. If the words *creditor* and *debtor* did not exist in our language, we might compound the words of our

[1] "Equivalent" in the sense that each implies the other. The statements are supposed to be expressed in some non-inflectional language, symbolic or other, in which the value, effect, or meaning of a word or symbol generally varies with its position. Algebra and Chinese are good examples.

statements ϕ and ψ, and, putting the compound word *has-lent-money-to* for *creditor*, and *has-borrowed-money-from* for *debtor*, say that the statement ϕ asserts that A is the *has-lent-money-to* of B, and that the statement ψ asserts that B is the *has-borrowed-money-from* of A. In this form of the statements ϕ and ψ, we have $x = creditor$ (or its longer equivalent), $y = debtor$ (or its longer equivalent), and $\pi = is$. The following are self-evident cases of the defining formula of § 22 :—

(1) Let $\phi = (A > B)$, $\psi = (\beta < A)$.

Here $\alpha = A$, $\beta = B$, $x = (>) =$ (greater than), $y = (<) =$ (less than), and π is non-existent.

(2) Let $\phi = (A : B) =$ (A implies B), $\psi = (B \mid A) =$ (B is implied by A).

Here $\alpha = A$, $\beta = B$, $x = (:) =$ (implies), $y = (!) =$ (is implied by), and π is non-existent.

(3) Let $\phi =$ (A is now the teacher of B), and $\psi =$ (B is now the pupil of A).

Here $\alpha = A$, $\beta = B$, $x =$ teacher, $y =$ pupil, and $\pi =$ (is now the).

(4) Let $\phi =$ (A was formerly the teacher of B), and let $\psi =$ (B was formerly the pupil of A).

Here $\alpha = A$, $\beta = B$, $x =$ teacher, $y =$ pupil, and $\pi =$ (was formerly).

24. The last two examples (3) and (4) will show why I said that the stricter or more accurate relations were not x and y but x, π and y, π. Instead of saying "A *was* formerly the *teacher* of B," we may put the verb in the present tense, and say "A *is* the ex-teacher (or former teacher) of B"; and just as the words, *ex-king*, *queen-dowager*, etc., do not express the same relations as *king*, *queen*, etc., so x and y do not generally express the same relations as x, π and y, π.

25. This possibility of converting relations of the past or future into relations of the present is one of the many advantages of pure logic or the logic of statements. Let the symbol A denote the statement "The event *a did* happen," or let it denote the statement "The event *a will* happen". In either case we write A^τ, A^ι, A^ϵ, etc.; that is, A *is* true, A *is* false, A *is* certain, etc. If A = "The event *a did* happen," then A^τ asserts that "It *is* true that *a did* happen"; and if A = "The event *a will* happen," then A^τ asserts that "It *is* true that *a will* happen." Whether A refers to the past, present, or future, A^τ (which replaces A in symbolic reasoning) always refers to the *present;* and the same may be said of A^ϵ, A^η, A^θ, and of A^x generally, whatever class of statements x may represent. Thus A^τ and A^ι are not exactly synonymous with A and A′.

26. The preceding discussion seems to me to make it clear that the so-called *logic of relations* bears pretty much the same relation to *pure logic* (the logic of statements) as the *theory of functions* bears to *pure mathematics* (see § 12); that is to say, in each case, the former is a special development in a particular direction of the latter. For this reason, in order to mark the analogy, the *logic of relations* should rather be called the *logic of functions*. The questions which it discusses are closely connected with philology and the theory of language in general. In mathematics the words *function* and *relation* are so closely allied that they may almost be considered synonymous. The statement $(A = f_B)$ may be read either as "A is the *function* f of B," or as "A has the *relation* f to B". The mathematical functions (or relations) f and F are *reciprocal* when we have

$$(A = f_B) = (B = F_A).$$

Applying to this case the defining formula of § 22, we find that ϕ here denotes $(A = f_B)$, that ψ denotes $(B = F_A)$, that x denotes f, that y denotes F, and that π denotes the sign $=$, common to the two leading[1] functional statements ϕ and ψ. A mathematical function (or relation) f is *symmetric* when we have

$$(A = f_B) = (B = f_A).$$

A mathematical function (or relation) f is *transitive* when we have

$$(A = f_B)\ (B = f_C) : (A = f_C).$$

27. Perhaps the most important principle underlying my system of notation is the principle that we may vary the meaning of any symbol or arrangement of symbols, provided, firstly, we accompany the change of signification by a new explanatory definition; and provided, secondly, the nature of our argument be such that we run no risk of confounding the old meaning with the new. Of course this variation of sense should not be resorted to wantonly and without cause; but the cases are numerous in which it leads both to clearness of expression and to an enormous economy in symbolic operations. This is especially the case when the nature of our researches requires the frequent repetition of a lengthy symbolic expression. Then, three courses are open to us. Firstly, we we may accept this repetition with all its inconvenience; or,

[1] Here we have *functions of functions*. The *statements* ϕ and ψ are functions of the mathematical functions f and F, *which are not statements*.

secondly, we may invent a wholly new symbol of unwonted form and unsuggestive of any analogy; or, thirdly, we may (as I usually do) borrow some familiar and, if possible, suggestive symbol (or combination of symbols), divest it of its old meaning, and, by the aid of a fresh definition, supply it with a new. This last course unquestionably requires much thought and deliberation in the choice of the symbol (or combination of symbols) thus to be entrusted with new duties. The great danger to be guarded against is, of course, the danger of ambiguity. The symbol (or combination of symbols) chosen should be such that the context and the general nature of the research must render its meaning unmistakable Does not the context usually prevent ambiguity in the ordinary language of daily life? Can we, for instance, ever confound a *verb* with a *noun*, because they now and then happen to be identical in form? What prisoner attempting to escape could misunderstand the stern warning of the sentinel, "If you move another step, I shall fire," and imagine that the latter was speaking of a *fire in a grate?* Suppose, when I enter upon some investigation in probability, I lay it down as a preliminary that capital letters must be understood throughout to denote statements; that small italics denote the numerical values of chances; and that the symbol A^x is an abbreviation for the proposition, "The chance that A is true is x". If at the end of my investigation I arrive at the conclusion $A^{\frac{1}{2}}$, what can this mean but that the chance required as to the truth of A is $\frac{1}{2}$? In ordinary algebra, when A is understood to denote a number or ratio, the symbol $A^{\frac{1}{2}}$ denotes the *square root* of A; but, in the sphere of pure logic, what meaning can we attach to the square root of a *statement?* No other logician or mathematician, so far as I know, has as yet insisted upon, and acted upon, this principle of absolute liberty to vary not only the meanings of our separate symbols, but also of their combinations or collocations, whenever clearness, brevity, or other convenience demands it. Prof. Peano (who may be regarded as the leader of the Italian school in symbolic logic) appears to go on the very opposite principle. He holds (if I rightly understand him) that each separate idea should be represented by its own special symbol, which we should never, if we can by any possibility avoid it, employ in any other sense. Now, I am not prepared to say that this is necessarily a wrong principle as regards *his* scientific explorations—some people make discoveries by travelling eastwards, others (like Columbus) by travelling westwards; but I feel quite sure that the principle would never succeed in *my* researches. For these Prof. Peano's

notation is much too complicated. Should any one doubt this let him try his notation instead of mine in the solution of one of the complicated problems which I worked out in my recently published memoir on "La Logique Symbolique et ses Applications," in the third volume of the *Bibliothèque Internationale du Congrès de Philosophie*. It seems to me that our notation should always be shaped and suited to the nature of the investigation and to the kind of problems we encounter. Symbolic conventions that may be admirably adapted for one class of problems may be altogether unsuited for another. Even in dealing with the same class, synonymous symbols for the same thing, idea, or proposition, and variations of meaning for the same symbol, are often convenient. The symbols $A : B$ and $(AB')^{\eta}$ are synonyms; the latter being the definition or explanation of the former, and, therefore, by implication, the clearer of the two. But take the two synonymous complex statements:—

$$(A : B)\,(B : C) : (A : C) \text{ and } \{(AB')^{\eta}\,(BC')^{\eta}\,(AC')^{\eta_1}\}^{\eta},$$

the former of which dispenses entirely with the symbol η, and the latter entirely with the symbol :. The former is transparently evident, which is far from being the case with the latter. Two photographs or drawings of the same landscape may both be accurate from their respective points of view; yet one may appeal instantaneously to the memory, while the other is with difficulty recognised.

28. As an example of the same symbol used in different senses take the symbol A_B. In certain cases I use this symbol as a convenient representative of the implication $A : B$; but I also use it in other senses when convenient (of course after due warning), and entrust the expression of implication to $A : B$ alone (See *Bibliothèque du Congrès Internationale de Philosophie*, vol. iii. p. 166). One of these uses I define as follows: When we have a series of concrete things or abstract statements forming the class A_1, A_2, A_3, etc.; then A_B denotes the individual (or any one of the individuals) of the series for which A^B is true; A_C denotes the one (or any one) for which A^C is true; and so on. Thus in A_B the subscriptum B is *adjectival;* whereas in A^B the exponent B is *predicative*. For example, let S = *stag*, let B = *brown*, and let K = "*has been killed by me*" or "*I have killed*". Then S_B^K will mean "The *brown stag* (or a brown stag) has been *killed* by me," or "I have *killed* the (or a) *brown stag*"; whereas S_K^B would mean "The *stag* which I have *killed* (or which has been killed by me) is brown". Or again, supposing our universe of brown things to be restricted to animals,

we may have B^{S}_{K}, which would mean "The *brown* animal which I have *killed* is a *stag*. These examples bring us to the border of another class of questions which will be discussed in what follows.

Brute Reasoning and Human Reasoning.

29. It is probable that the primitive language, or primitive languages, of our remote ancestors, like the languages of the animals around them, consisted of mere elementary statements, such as, in our own day, the warning "Caw" of a sentinel rook, or the "Cluck" of a hen when she calls her chickens. These animal statements (like the more or less complex propositions of ordinary human speech) are simply *data*—unconsciously perhaps supplied in the case of some of the lower animals, and without foreknowledge of their effects, but purposely and with foresight in the case of the higher—*data* purposely offered in order that others may therefrom draw correct and useful conclusions. What does the "Caw" of the sentinel rook perched on the branch of a commanding tree say to the others on the ground busily feeding on the farmer's property? To one of these it may say, "A man is coming with a gun"; to another it may say, "A boy is coming with a catapult"; to all it says, "Danger approaches," though their respective ideas as to the precise danger may be vague and varied.

30. Let us now fly far back into the past and try to picture to our minds the origin of human language as we now know it—the language of *propositions*. When was it, and how was it, that primitive man—the desiderated "missing link" of anthropology—escaped from his chrysalis and passed from the brute condition into the human? I do not say *became* human: human he must have been before, or that barrier would have for ever remained impassable. It is the same germ that develops first into a caterpillar and then into a butterfly. To the first question—the question as to *when?*—we can give no answer. Geologists may fix within more or less exact epochs the structural variations that have taken place in animal bodies; they can hardly fix the dates corresponding to the changes in the delicate organ called the brain; still less those corresponding to the changes in that mysterious entity which works through the brain, which no microscope can detect, and which, in animals as in man, we may for the present agree to call the *mind*. To the *How* question we cannot give a precise and definite answer either. In the chain of mental evolution it would be idle to seek

the "missing link"; here the missing links are not one but many. The first of our far-off pre-historic ancestors that barked a tree or raised a heap of stones in order afterwards to remember where he had hidden some object which he prized, performed therein an act which ranks him at once as human. We may even go further and honour that great pre-historic unknown as the *first inventor of symbolic logic.* His arbitrary mark, whatever its nature, represented not one proposition merely but a whole train of reasoning, which we may translate freely as follows: "When I see this mark, it will remind me of the exact position of that spot yonder, where I am now going to hide this provision of nuts". Symbolic concentration of language could hardly be carried further. Yet it does not follow that the language of this 'missing link' and of his tribe had as yet attained the propositional stage. Probably it had not. A higher place must be assigned to that other, and probably later, 'missing link' who first grasped the idea of varying the order or collocation of the elementary sounds or symbols that individually represented *statements* in his (or her) language, so as thereby to form new and more precise statements (or *data*) suggestively allied to the old in their sound or in their form, yet differing from the old and from each other in their signification. Take the examples of § 28, namely, $S_B{}^K$, $S_K{}^B$, $B_K{}^S$. We may suppose that S, B, K were originally separate and complete, but not always clear and definite, statements. In the current language of the tribe the word or symbol S (or its equivalent) might have meant "I see a *stag*," or "I hear a *stag*," or "A *stag* is coming," or "It is a *stag*," etc. Otherwise expressed, the simple sound or symbol S might originally have done duty, sometimes for a proposition $\phi(s)$, sometimes for a proposition $\psi(s)$, and so on (see § 12). The same may be said of its co-symbols B and K. Let us suppose that S, B, K were respectively understood to mean "It is a *stag*," "It is *brown*," "I have *killed* it". Then $S_B{}^K$ (or some other order or collocation SB · K or BS · K or K · BS) would mean "The *brown stag* has been *killed* by me," or "I have *killed* the *brown stag*". Now, let it be observed that in this combination of the elementary statements S, B, K into the complex statement $S_B{}^K$ the statements S and B *are taken for granted as already known*, while the statement K is *asserted as fresh knowledge.* Thus the categorical statement $S_B{}^K$ is analogous but not equivalent to the implication SB : K, which *does not vouch for the truth of either* S *or* B *or* K. The statement $S_B{}^K$ in fact means the same as the simple statement K, "I have

killed it"; the only difference being that the *it* in the latter is replaced by the more definite symbol S_B (the *brown stag*) in the former.

31. This power of inventing and slowly developing a language suited to his needs distinguishes man from the brutes. The languages of the brutes appear to be inherited with their instincts, and to remain always the same; while that of man varies continually. What savage tribe or civilised community at the present time could understand the language spoken by their forefathers 3,000 years ago? Yet to-day the rook caws, and the dog barks, and the horse neighs, just as they did in the days of the ancient Chaldeans or Egyptians. To this difference between man and brute as regards *language* corresponds an analogous difference as regards intelligence. Brute and man alike are capable of *concrete* reasoning; man alone is capable of *abstract* reasoning. To explain my meaning I must have recourse to symbols. The brute as well as man is capable of the concrete inductive reasoning AB : C; that is to say, from experience—often painful experience—the brute as well as man can learn that the combination of events A and B is invariably followed by the event C. The higher order of brutes may also be able to communicate to others of their species a knowledge of each event A, B, C separately, or even collectively; but *no brute can communicate to another* a knowledge of the general inductive law AB : C, the equivalent of $(ABC')^n$, which it has learnt itself by experience. But this is rather a difference between the brute and the human in their respective powers of communicating their knowledge to others of their kind than a difference in their powers of reasoning, and thereby obtaining fresh knowledge for themselves. I will now show (again using symbols) that man possesses a higher reasoning faculty which no brute appears to possess even in the most rudimentary form. We have seen that from two *elementary* premisses A and B, brutes as well as men can, by inductive reasoning, draw a conclusion C. But no brute can, from the two *implicational* premisses A : B and B : C draw the *implicational* conclusion A : C. That is to say, the brute is capable of the concrete inductive reasoning

$$AB : C$$

but not of the abstract, deductive and formal reasoning[1]

$$(A : B)\ (B : C) : (A : C).$$

[1] This formula was, I believe, introduced into logic for the first time, about twenty-four years ago, in my second paper on the "Calculus of Equivalent Statements," published in the *Proceedings of the London Mathematical Society.*

It is evident that the latter is not only more difficult, but also that it is on a higher and totally different plane. In the former, the two premisses and the conclusion are all three *elementary statements* (see § 3), while the whole reasoning constitutes a *simple implication*. In the latter, the two premisses and the conclusion are all three *implications*, while the whole reasoning is an *implication of the second order*. The premisses A and B of the former are *percepts* supplied *directly by the senses;* the premisses A : B and B : C of the latter are *hypothetical concepts of the mind*—concepts which may be true or false (as may also the conclusion), without in the least invalidating the formula (see §§ 10, 32).

32. Some writers[1] have supposed that certain of the inferior animals are capable of syllogistic reasoning. This error arises, I think, from a mistaken idea as to the real nature of a syllogism, and one for which the ordinary text-books on logic are in great measure responsible. These usually express Barbara somewhat as follows: "All A is B, All B is C; *therefore* All A is C". The syllogism, or any other argument, thus worded *is not a formal certainty;* it is false whenever either of the premisses is false, whatever the conclusion may be; and it is also false when the conclusion is false, whatever the premisses may be. Barbara should be worded as follows: "*If* all A is B, and all B is C: *then* All A is C". In this form the syllogism is true whether premisses or conclusion be true or false (see § 10), and must, therefore, be classed amongst the *formal certainties*. Now, a statement is called a formal certainty when it follows necessarily from our formally stated conventions as to the meanings of the words or symbols which express it; and until a language has entered upon the propositional stage those conventions (or definitions) cannot be formally expressed and classified. No language but the human has as yet reached this propositional stage; and, therefore, no terrestrial animal except man is capable of syllogistic or other abstract reasoning.

[1] The late Prof. Max Müller, in his *Science of Language* (1861), speaking of a parrot that drops a light nut without attempting to crack it, supposes it to reason thus: "All light nuts are hollow; this is a light nut; therefore this nut is hollow". But the parrot's reasoning is much more elementary. It is only the simple implication, "*Light nut* implies *no kernel*"; an induction founded on perceptive experience, and *not necessarily* (or *formally*) *true*.

IV.—DISCUSSIONS.

THE ATTITUDE OF SPECULATIVE IDEALISM TO NATURAL SCIENCE.

Prof. Rücker's Presidential Address at the Glasgow meeting of the British Association last September and Lord Kelvin's speech after the delivery of that Address have called attention to a subject of some public importance—the attitude of Speculative Idealism to Natural Science. Prof. Rücker, in the course of a defence of the physical reality of atoms and ether, referred to Prof. James Ward's "unsympathetic account (in *Naturalism and Agnosticism*) of the blunders of those whose work, after all, has shed glory on the nineteenth century," and Lord Kelvin, speaking of Prof. Rücker's Address, said (as reported in the *Times*, 12th September, 1901):—

"They had heard a most eloquent, convincing and picturesque defence of atoms and ether against—what? He was afraid that rather jaw-breaking words must be used to describe what the defence was against. It was a most crude recrudescence of neo-pantheism which had grown up in the last ten years of the nineteenth century, and grown up in a manner singularly inconsistent with the bright and clear teaching of realities and faith in realities with which the century commenced, and with which the century had in the main been conducted."

It is plain from this incident that Lord Kelvin regards Prof. Ward and his allies, among whom are certain men of science —Prof. Rücker's 'puzzled mathematicians'—as opponents of science.

I have no intention of taking a side in the dispute, as one between scientific men—between Lord Kelvin, who maintains that ether and atoms are material entities, and the puzzled mathematicians, who tell us that they are descriptive formulæ in a conceptual system. It is enough for me to believe, with both sides, that science cannot get on without the mental faculties of men of science, and that it is their description of the facts. I am inclined to think that the dispute, so far as it is merely one between men of science, is largely verbal. But it is no merely verbal issue that Prof. Ward raises. He has other allies than the puzzled mathematicians; and acting with these other allies—

the speculative idealists, laymen as regards Natural Science, he goes on to build, mainly on the hint furnished by the puzzled mathematicians, a superstructure which, in Lord Kelvin's eyes, menaces science.

It will strike many people as strange that our speculative idealists, especially as represented by a distinguished psychologist like Prof. Ward, should be regarded as opponents of science. Like other educated men they seem to accept results of observation and experiment and mathematical reasoning vouched for by Lord Kelvin and other experts in Physics; and in Biology they seem to be Darwinians—without qualification so far as the lower animals are concerned, and with a certain reservation so far as man is concerned. It is true, of course, that their chief interest is not in the progress of Natural Science; but that, it may be urged, does not make them, any more than many other educated laymen, opponents of science. If they sometimes seem to dwell unsympathetically on the failures of science, and to give its discoveries a niggard welcome, as though of small importance, even that is not opposition in the serious sense intended by Lord Kelvin. He evidently means something more than mere lack of sympathy with science on the part of men, who after all, profess a general acceptance of its modern teaching. He means, I take it, that Idealism is an actively anti-scientific propaganda—that the educated lay opinion to which it appeals, especially in this country and America, is made by its teaching a climate noxious to the growth of Natural Science.

What ground has Lord Kelvin for thinking that the Idealists —described as neo-pantheists—are opponents of science in this serious sense? Let us see what they have to say against Lord Kelvin and Darwin.

Their objection to Lord Kelvin, as I understand it, is that he makes his ultimates—ether and atoms—physical entities, whereas they are descriptive formulæ; that is, he posits a 'material' not a 'spiritual' principle as ultimate foundation.

Similarly, their objection to Darwin is that he derives man's self-consciousness ultimately from a 'material' source, whereas it can be rightly explained only as 'reproduction' of an ultimate 'spiritual' principle — the 'Eternal Consciousness' which constitutes the World.

In other words, their objection to the science of Lord Kelvin and Darwin is that it is not "framed in a theological setting".[1] Natural Science or Natural History, they tell us, must be "re-written from the idealist point of view". The re-writing, as I understand it, is to be undertaken, not with the view of reaching, by some new method, scientific results in Physics and Biology,

[1] This phrase is Mr. Balfour's; but of course I do not class him with the Idealists, whose Philosophy, at least as set forth by T. H. Green, I understand him to reject, and to regard as incompatible with an effective Theism.

unattainable by Lord Kelvin and Darwin; but to vindicate "freedom of action and knowledge" which is declared to be impossible on the 'naturalistic' hypothesis. We are told, with much reiteration but little attempt at explanation, that unless we reject the "absolute opposition between mind and matter" assumed by Naturalism, and posit a 'spiritual' principle as foundation, we can have no 'Ethics'—no conduct as 'Ethics' must understand it, *i.e.*, no action determined by an 'Ideal'; and if no conduct, then no interest in truth—no science. Indeed the fact that men like Darwin and Lord Kelvin cultivate science at all, and reach results which are so far intelligible, is explicable only on the view that they implicitly assume a 'spiritual' principle as foundation. Were they consistent they would write 'spiritual' where they now write 'material'.

The Idealists then are certainly opponents of Lord Kelvin; but it is his Naturalism or Agnosticism, they will tell us—his non-theological philosophy rather than his science that they oppose.

It is not my object to inquire whether Lord Kelvin's Naturalism tends, as the Speculative Idealists aver, to the destruction of morality. My object is more modest—merely to inquire whether they are the proper people to bring such a charge, even if it were true. Is the content of their theology of the 'spiritual principle' such as to give them the right to come forward and accuse Lord Kelvin, however truly, of destroying the foundation of morality? It is the extraordinary ambiguity of their utterances which suggests and justifies this question. Careful reading of their works leaves me in the greatest doubt as to what the content of their theology is. I cannot make out whether their 'Spiritual Principle' is a 'Personal God' in the ordinary Christian sense, or an Impersonal (albeit Spiritual) Something. I begin by saying to myself that they would not blame Lord Kelvin so severely for ignoring their 'Spiritual Principle' if it were not a 'Personal God'. An Impersonal Spiritual Principle, I argue, is surely without theological value, and no better than mere 'matter'. The adherents of an Impersonal Spiritual Principle would surely show signs of compromising with the 'Agnostics' on the basis of some such phrase as *Deus sive Natura*. They would not oppose them bitterly, as our Idealists do. The conclusion that their Spiritual Principle is a Personal God, I say to myself further, seems to be borne out by the circumstance noticed long ago by Mark Pattison, and now plain to all observers, that the teaching of the Idealists is accepted with favour in ecclesiastical quarters. It is surely impossible to suppose that an Impersonal Spiritual Principle would be tolerated in these quarters. The theology which Lord Kelvin and his like are attacked for ignoring is, I say to myself, evidently thought in these quarters to include doctrines of God's 'Personality' and man's 'Immortality' similar to those held by Christians—especially, the reiterated assertion that 'Ethics' from the standpoint of Natural Science is impossible is taken in these quarters to pledge

the Idealists to these two doctrines. The Idealists, I say to myself, are regarded in these ecclesiastical quarters as offering 'philosophical' or 'speculative' support to traditional Christian doctrine; and those who accept this support even show their sense of its value by restating Christian doctrine in terms of the idealistic philosophy—at least this is how I read some recent theological writings. And then there is the extraordinary welcome which the latest considerable production of the idealistic school, Prof. Ward's *Naturalism and Agnosticism*—the occasion of Lord Kelvin's remarks—has received from churchmen. This, I say to myself, shows how thoroughly the school has won the confidence of churchmen. Thus I find a writer in the *Guardian* saying that "the limitation (for which Prof. Ward contends against the Agnostics) of the aim of science to description alters the whole relation of science to Theology". That is, Idealism is willing to leave Lord Kelvin with a free hand to frame concepts and descriptive formulæ, and to manipulate them as he thinks best for the advancement of science; and in return requires him to recognise a theology without which "freedom of knowledge and action" is impossible. Lord Kelvin, it is complained, will not fall in with this arrangement. He insists on treating descriptive formulæ as material entities, and leaves no place for this all-important theology.

These, then, are the considerations which make me think that the Spiritual Principle of the Speculative Idealists must be a 'Personal God': If it were not, they surely would not think it worth while to oppose Lord Kelvin so uncompromisingly; and churchmen would not accept their teaching so gladly.

But it is time to pass on from these considerations, for I have still to confess that, in spite of them, my reading of the works of the Speculative Idealists leaves me in the greatest doubt as to whether their Spiritual Principle is a Personal God in the ordinary Christian sense or an impersonal (albeit spiritual) Something. It is true of course that most of them habitually speak of their Spiritual Principle in language suitable (or not unsuitable) to the description of God as conceived by Christians. But do they mean us to take their language literally—and if so, is it, in its literal sense, warranted by their philosophy? I find that critics to whose opinion I am bound to attach weight hold that it is not warranted. I find that Mr. Balfour and Prof. A. S. Pringle-Pattison hold that T. H. Green's Philosophy at least is inconsistent not only with the personality of God in the Christian sense but also with the personality of man. Whether Mr. Balfour and Prof. A. S. Pringle-Pattison themselves supply a philosophical basis for these two doctrines, or really maintain them on other than philosophical grounds, I do not inquire; I merely take note of their view that these two doctrines are incompatible with the philosophy of T. H. Green and his immediate followers. I also take note of Mr. Bradley's view that the Ultimate Principle or Absolute, although

'Spiritual,' *cannot* be personal in the sense naturally conveyed by the language of our Idealists.

Am I then to interpret their maintenance of the doctrine of the 'Personality of God' as merely a case of 'adaptive resemblance' or 'mimicry' occurring in a philosophical system of which, if I am to believe Mr. Bradley, the Ultimate Principle or Absolute, though 'Spiritual,' cannot be personal in the sense naturally conveyed by the language used?

The following passages may be taken as typical of the theological manner of the Idealistic school:—

"There is an absolute Experience," says Prof. Royce (*The Conception of God*, pp. 42-49), "for which the conception of an absolute reality, *i.e.*, the conception of a system of ideal truth is fulfilled by the very contents that get presented to this Experience. This absolute Experience is related to our experience as an organic whole to its own fragments. . . . People think it very modest to say we cannot know what the Absolute Reality is. They forget that to make this assertion implies that one knows what the term 'Absolute Reality' means. . . . God is an Absolute Experience transparently fulfilling a system of organised ideas. . . . The foregoing conception of God undertakes to be distinctly theistic not pan-theistic. It is not the conception of any unconscious reality into which finite beings are absorbed; nor of a universal substance in whose law our ethical independence is lost; nor of an ineffable mystery which we can only silently adore. . . . What the faith of our fathers has genuinely meant by God is despite all the blindness and all the unessential accidents of religious tradition identical with the inevitable outcome of reflective Philosophy."

"No other principle," says Prof. Watson, "save one which is self-conscious can explain the existence of self-conscious beings; and as these include and yet transcend all other forms of being, the universe must be held to be when properly understood, self-conscious or rational. . . . We at last reach the idea of an absolute subject-object in which the distinction of subject and object is seen to be a distinction within an absolute identity. It may therefore fairly be claimed that Speculative Idealism proves the existence of God."

What am I to think of these brave words in the dry light of Mr. Bradley's critique?

"For me a person," says Mr. Bradley (*Appearance and Reality*, p. 532), "is finite or is meaningless. But the question raised as to the Absolute may I think be more briefly disposed of. If by calling it personal you mean only that it is nothing but experience, that it contains all the highest that we possibly can know and feel, and is a unity in which the details are utterly pervaded and embraced—then in this conclusion I am with you. But your employment of the term personal I very much regret. I regret this use mainly not because I consider it incorrect—that between

us would matter little—but because it is misleading and directly serves the cause of dishonesty.

"For most of those who insist on what they call 'the Personality of God' are intellectually dishonest. They desire one conclusion and to reach it they argue for another. But the second, if proved, is quite different and serves their purpose only because they obscure it and confound it with the first. And it is by their practical purpose that the result may here be judged. The Deity which they want is of course finite, a person much like themselves with thoughts and feelings limited and mutable in the process of time. They desire a person in the sense of a self, amongst and over-against other selves, moved by personal relations and feelings towards these others—feelings and relations which are altered by the conduct of the others. And for their purpose what is not this is really nothing. Now with this desire within itself I am not here concerned. Of course for us to ask seriously if the Absolute can be personal in such a way would be quite absurd. And my business for the moment is not with truth but with intellectual honesty.

"It would be honest first of all to state openly the conclusion aimed at, and then to inquire if this conclusion can be maintained. But what is not honest is to suppress the point really at issue, to desire the personality of the Deity in one sense, and then to contend for it in another, and to do one's best to ignore the chasm which separates the two. Once give up your finite and mutable person and you have parted with everything which for you makes personality important. Nor will you bridge the chasm by the sliding extension of a word. You will only make a fog where you can cry out that you are on both sides at once. And towards increasing this fog I decline to contribute. It would be useless in such company and in such an atmosphere to discuss the meaning of personality—if indeed the word actually has any one meaning. For me it is sufficient to know on one side that the Absolute is not a finite person. Whether on the other side personality in some eviscerated remnant of sense can be applied to it is a question intellectually unimportant and practically trifling."

Am I then to take Prof. Royce literally, and say that he maintains a Theism which (if Mr. Bradley is right) is philosophically impossible? Or am I to find Prof. Royce's true meaning in his reference to "all the blindness and all the unessential accidents of religious tradition," and understand him to indicate, for the discriminating reader, a conclusion more in accordance with his Philosophy—the conclusion that the Absolute is personal only in the sense of necessarily differentiating itself into persons?

If this is the conclusion which Prof. Royce and other Speculative Idealists are bound to maintain, and do in fact maintain for the discriminating reader, then, I submit, they ought to take him fully into their confidence. They ought to explain to him—what needs explaining very much—how this doctrine of a Spiritual

Principle, which is only personal in the sense of differentiating itself into persons, supplies the Believer with an Ideal of conduct to which the so-called Agnostic is blind. As it is, repeated assertion takes the place of explanation. Passages like the following occur over and over again in the writings of the school, and indeed form the staple of its teaching:—

"Science abstracts certain elements of reality from the rest. . . . The scientific moralist insists on taking moral facts in abstraction from their bearing on the whole theory of the cosmos. . . . To investigate the theological sanctions of morality is simply to go . . . from a partial to a complete view of the ethical problem. . . . The ought of morality is the dictation of the ethical whole to its parts, for the true nature of the parts is determined by the nature of the common whole."

If Mr. Bradley is right, this 'whole'—the source of the 'theological sanctions' which the 'scientific,' *i.e.*, naturalistic or agnostic, moralist ignores—is not a Personal God in the Christian sense. The most, it would seem, that can be said of it, on philosophical principles, is that, though not personal, in the sense of being itself a Person, it is Something which necessarily differentiates itself into persons—you and me: necessarily, "because" as we are told by a recent writer of the school "no other differentiations have vitality to stand against a perfect unity, and because a unity which was undifferentiated would not exist".[1]

Now, what needs careful explanation is how the 'theological sanctions' of which such a Something is the source make themselves felt—how precisely the moral experience of the man who comes under their influence differs from that of the man who does not, *e.g.*, from that of the so-called agnostic. What is the 'Ideal' of the man who comes under the influence of these 'theological sanctions'? This is an important point, for it is with the 'Ideal,' we are told, that 'Ethics,' as distinguished from the Natural History of Morals, is entirely concerned: "Ethics must content itself with understanding the nature of the Ideal, and must not hope to formulate rules for its attainment". What then is the 'Ideal' of the man who comes under the influence of the 'theological sanctions' supplied by the Impersonal Something which necessarily differentiates itself into persons? His 'Ideal' can hardly be to become more and more like the Absolute out of which he has been differentiated, for that is not personal in the sense of being itself a Person. Is his 'Ideal' then simply to go on being the Person he himself is? If so, how does his 'Ideal' differ from Spinoza's *in suo esse perseverare conari?*

So much on the supposition that the Spiritual Principle of Prof. Royce and other Idealists like him is what Mr. Bradley says it must be. If, on the other hand, it is not what Mr. Bradley says it must be, but a Personal God in the ordinary

[1] How precisely does 'vitality' differ from 'personality' in this argument?

Christian sense, let them make some serious attempt to meet Mr. Bradley's critique. Prophets I readily admit they are; but they profess to be philosophers, and to prove things. Let them show that the ascription of Thought and Will to their Ultimate Spiritual Principle or Absolute, as to a Personal God in the Christian sense is not, as Mr. Bradley contends, out of the question, but follows logically from their philosophical principles. Mr. Bradley is the really dangerous enemy. Let them make it their business to dispose of him in their rear, before they advance further against Lord Kelvin and the Agnostics. As it is, they seem to think it enough to express mild regret, in passing, that Mr, Bradley should not happen to see his way to ascribing personality to the Absolute; but they are unwilling to come to close quarters with him.

I hope it will be understood that I am not arguing for or against any particular form of theological doctrine. I am only complaining that the Speculative Idealists, while insisting on the importance of theology for morality and science, leave us in doubt as to what particular form of it they wish us to accept as outcome of their philosophy. They do not seem to realise that the repetition of the word 'Spiritual' (or its equivalents) does not help the critical student of their philosophy. He wants to know how, words apart, their 'Spiritualism' differs from Lord Kelvin's 'Naturalism'. The opposition 'teleological — mechanical' does not enlighten the student; for he has not been told what the τέλος or 'Ideal' is—he has only been warned that 'Ethics' must not think of formulating rules for its attainment.

The Glasgow incident will have done good if it makes people ask our current Idealist philosophers to explain in unambiguous language the content and philosophical foundation of the "theology" which they supply to their disciples, and attack men of science with. Explanation is especially due to those who are attacked. Their training in the natural sciences has made it peculiarly difficult for them to catch such meaning as Speculative Idealism sets forth. They have reason to complain that hitherto no real trouble has been taken to meet their case. They are attacked for neglecting they know not what. They can only defend themselves by hurling back charges of "crude neo-pantheism" which may or may not be deserved by their assailants. But although it is to the men of science attacked that explanation is properly due, I feel sure that even many persons who are experts in philosophy would welcome explanation on their own account; and it would be a godsend to young and other inexperienced disciples or proselytes of the Idealist School who suffer from a chronic puzzlement which debilitates the mental faculties, while it is mistaken for "philosophical interest".

J. A. Stewart.

V.—CRITICAL NOTICES.

The Use of Words in Reasoning. By Alfred Sidgwick. London: Adam and Charles Black, 1901. Pp. xi., 370.

In the present book Mr. Alfred Sidgwick argues with great force and keenness for a more thoroughgoing analysis of Language in Logic considered as an Art—the Art of detecting and avoiding fallacy or "bad reasoning". Logic, he holds, is concerned with the difference between good and bad reasoning, and the Logic that is really useful and applicable in the cases where there is most danger of falling into fallacy is not the abstract "fair-weather" doctrine of traditional Formal Logic, at the best applicable only to 'average' cases, but an organon of a less obvious and more elastic and progressive type, directed to tracing out and unmasking those ambiguities of language to which, in his opinion, are due the confusions which are at the root of our mistakes in reasoning.

We may say, perhaps, that Mr. Sidgwick does three things in his book. First, he attempts to show how great are the defects of Formal Logic, and how little it deserves the important position which has long been, and still is, claimed for it by thinkers who regard themselves as Logicians. Secondly, he expounds the Progressive Logic which, in his view, would worthily replace, from a philosophical point of view, the futilities of the Formal Scheme; and thirdly, he tries to indicate briefly how this Progressive Logic could be so adapted for teaching purposes as to make it both possible and advantageous for the teacher of Logic to set aside all 'Formal' Text Books, and train his pupils from the beginning, in the use of the more concrete, subtle and flexible instrument.

The central doctrines, the strongholds of Formal Logic—such as the Laws of Thought, and the Theory of Syllogism—are declared on the one hand to suffer from a falsifying and sterilising abstractness—a disregard of the conditions of actual living thought, in which the matter and context are all-important, and, on the other hand, to be of a useless and truistic character, as a formulation of what all of us do and have done and must do, in thinking, from the very dawn of reasoning consciousness—what no one is ever in any danger of *not* doing, so far as conscious thinking is concerned.

Not indeed that Logic, more than any other Science, can do

without rules and general statements; but the laws of Formal Logic, like the laws of other Sciences, if taken in any applicable (and therefore disputable) sense, are liable to exceptions, to refinement, to improvement—and the spirit of Formal Logic is opposed to this—to the critical but wholesome attitude of using a general rule "with an eye upon its faults," of "welcoming the discovery of exceptions to the rules" instead of avoiding them. Briefly, what Mr. Sidgwick contends as against Formal Logic, is that "both the certainty and the simplification [at which it aims] are in their different ways delusive; that the only perfect axiomatic certainties of Logic are empty truisms of a practically misleading kind; that the assumptions by means of which simplification is hoped for, lead to unexpected complication and confusion; and that any real simplification achieved by Formal Logic is obtained at excessive cost, since the practical value of Logic is thereby almost destroyed. Logical theory, thus simplified, is applicable only to the flattest and least disputable cases of reasoning. Exactly where Logic is wanted, to improve upon common-sense views, Formal Logic breaks down." To put an argument into, *e.g.*, the form :—

All M is P.
All S is M.
therefore All S is P.

is no sufficient safeguard against fallacy, for our Middle Term may really not mean the same in one premiss that it does in the other—the place of difficulty, the place where the help of Logic is wanted to re-inforce mere customary insight, is in *getting* the premisses—in making sure that the M of the one premiss coincides with the M of the other. When this is accomplished, the fitting of our information into the universal form is a matter of no difficulty.

Again, in practice we proceed by either 'reflective' or 'forward' reasoning (to use Mr. Sidgwick's terms)—*i.e.*, we seek to justify (or overthrow) some assertion regarded as open to question, or we endeavour to reach some new conclusion. *E.g.*, we start with S is P, and try to prove or disprove *S is M*, and *M is P*. Or, starting with *M is P*, we try to trace its results when taken in conjunction with other assertions. "While forward reasoning starts from facts accepted as true, and asks what unseen conclusions they point to, reflective reasoning starts from a questioned conclusion and examines its truth by exploring its grounds." And while a Syllogism of correct form may be in fact faulty from want of sufficiently careful preliminary analysis, one which is invalid in *form* may be used to express an argument which as it occurs in the mind of the speaker is really cogent. *E.g.*, when from the premisses "Bad workmen complain of their tools, and X complains of his tools," a person draws the inference that "X is a bad workman," we should, Mr. Sidgwick holds, most reasonably conclude that the thinker in question argues validly from a

false major premiss to his false conclusion—"the *reasoning* was correct, but one of the statements was taken in a sense which made it false"—the defect was in his "conception of the subject matter". He took "Bad workmen complain of their tools" to involve "all who complain of their tools are bad workmen". In both cases *words* and verbal forms (or symbols if we use symbols) are sources of error. Our *thought* is always coherent, but the ambiguities of language, with its inevitable but often misleading vagueness of generalisation, help to hide from us the complexities of fact.

Similarly in 'Induction,' the abstract Canons of Mill's *Methods* are very easy to apply wrongly. The guarantee that an Induction by any of the Methods is correct, is to be sought, not in the Methods themselves (which are as familiar in common thought as the Syllogism itself), but in the care, knowledge and wisdom with which they are applied to concrete cases. Here again, it is on the preparation of material that we need to fix attention, rather than on the 'form' into which it is to be fitted. When, *e.g.*, by an application of the Methods of Difference, we have reached an inference that is false, our fault has been due to insufficient analysis. We may have taken the "one circumstance" supposed different in the two cases to be A, whereas 'A' covered a mixture of circumstances some of which were, and some not, essential to the production of A; the vagueness of our terms has permitted and veiled a misleading ambiguity. And the danger of ambiguity in all reasoning, and the degree in which the value of Induction depends upon previous knowledge, are points which a Logic tends to neglect in proportion to its 'Formality,' while the harm worked by ambiguity is due to the misconception by Formal Logic of the true nature of ambiguity. This misconception may be traced, partly to the idea that ambiguity belongs to *words* isolated from context and not to the assertions in which such words are used, and partly to a confusion between indefiniteness (which necessarily pertains to *all* descriptive words), and ambiguity (by which any descriptive word *may* be affected when used in assertion).

"The tendency to contentment with formality must," we are told, "be towards contentment with inefficient discrimination between good and bad arguments. . . . What can be expected from a system which does all it can to neglect those difficulties of interpretation, and those defects of language, to which most of our lasting differences of opinion are due, and which does all it can to make mechanical rules take the place of thought?" To restrict the sphere of Logic to the manipulation of sentences already put into "logical form," is no doubt to cut off many sources of difficulty, but in Mr. Sidgwick's view certain assumptions of Formal Logic—that the logical character of a word, or assertion, belongs to it independently of its context, that sentence and assertion are the same thing, and that the reasoning process is distinct from its subject-matter—are responsible for much complication

and confusion in the account which Formal Logic gives of its technical terms. Mr. Sidgwick discusses and illustrates this contention with reference to *connotative*, *general*, *concrete*, and *abstract* names, *universal*, *singular*, *particular*, *affirmative* and *negative* assertions; *essential* and *accidental*, *categorical* and *hypothetical* propositions; *Deduction* and *Induction*, *Categorical* and other syllogisms, *Mediate* and *Immediate inference*. There is indeed no room to deny that dispute and difficulty beset the definition of all these terms, and Mr. Sidgwick does not fail to recognise that this largely corresponds to the genuine difficulty of adequate analysis and clear insight in these cases, and that many definitions offered in logical text-books are the result of prolonged consideration and careful discussion—while again he would not deny that the 'formal' logician might be ready to set aside or modify traditional and accepted definitions, if any particular change were suggested that seemed to him to be really an improvement.

But Formal Logic is credited with a "tendency to minimise and neglect difficulties of interpretation," using propositions as its material only when they have been put into "logical form"—and hence making use of a rigid scheme of interpretation which depends on the form of propositions and arguments—a plan which takes for granted the preliminary careful analysis which is often the most difficult part of the business, and tends to make people slack in going behind the forms, mechanical in the interpretation of them, and unsuspicious of ambiguity. It also, according to Mr. Sidgwick, tends to foster an unnecessary elaboration of syllogistic doctrine, and of Immediate Inference. If we gave due weight to the process of translating sentences into logical form we should, he says, not stop at *S is P*, but work our sentences at once into premisses in the first figure, premisses expressed in the predicative form.

Besides the illusoriness of its simplifications and the unimportance of its doctrines, traceable to want of due care in guarding against the ambiguities of language, Mr. Sidgwick charges Formal Logic with being unprogressive and even obstructive to progress, in that it attempts to base itself on axiomatic certainties—*e.g.*, the Laws of Thought and the Law of Causation. These axioms, he holds, are rather the starting-point than the foundation of Logic. "In stating them all that Formal Logic does is to put into words the pre-suppositions with which every human being begins his life-long investigation of the facts of the Universe. In a vague way we learn the axioms of Logic almost before we learn to speak, and a few years later we are freely engaged in applying them, with small reflection upon the possibility of their being misapplied. The rest of our life is spent in finding out, by slow and disconcerting experiences, the snares of their application. What we want, therefore, from a Science of Logic is not a reminder that the axioms are (in the abstract) perfectly true, still less an optimistic assurance that we need not think of them as misleading; rather, we want a careful exposition of the ways in which, when applied,

they actually mislead us—of the occasions when they break down. We all know that A is A; what we do not know, at first, is that all errors in reasoning, where the reasoning is anything more than a pretence, may be reduced to the one error of taking some so-called A as really deserving the name".

Again, any statement of the axioms is bound to be ambiguous. *E.g.*, *A is A* may mean *real A is real A*, or *so-called A is real A*. Such ambiguity, in as far as it is not recognised as such, "lends support, by allowing a shift between the abstract and the applicable meaning, to the extremely shaky assertion that things are what they seem to be, or what most people take them for".

With regard to the question how Logic might be taught, Mr. Sidgwick offers some suggestions in chapter xiii. "A doctrine," he says, "that would form a useful starting-point is, that all descriptive names, as such, are indefinite; but we should cause unnecessary difficulty if, at first, we raised the question what precisely is a descriptive name. Later, the student will discover that a descriptive name is nothing else than the middle term of a syllogism; but at first this would not easily be made clear to him. Therefore it seems permissible to begin by roughly identifying the descriptive name with the kind of name which grammar recognises as a general name, class name, or common noun, merely explaining that this account of it, though mainly correct, contains a certain amount of error which may, for the moment, be neglected."

Before pronouncing an opinion on the suitability for beginners of a text-book of Logic on such lines, we should need to ask, not only how could the scheme be worked out, but also for what sort of students it would be appropriate.

Mr. Sidgwick, at the end of chapter xii., appeals for a defence of Formal Logic—a general challenge which I cannot profess to take up here—only making one or two remarks on a couple of points.

(1) Possibly, from Mr. Sidgwick's own limitation of the charge, a certain amount of defence may be extracted. For he says that his objections are "intended to lie against *contentment with formality* rather than against formality *per se*". This spirit of contentment with formality I do not desire to defend. Wherever doubt arises, or inadequacy, confusion or incoherence are found, Logic is, I believe, as much called upon to reform or develop as any more 'concrete' and restricted branch of knowledge. The antithesis of formality, as Mr. Sidgwick uses it, is judging individual cases upon their merits—but, of course, as he himself says, even individual cases can only be judged by help of general rules, and he by no means suggests that a Progressive Logic or any other study can dispense with principles and rules. His main complaint is that Logic as currently taught fails to provide effective safeguards against the fallacies which lurk behind ambiguities of language, and that it, at the same time, sets itself up as a sort of complete

and impregnable doctrine, based upon certain and self-evident laws, thus adopting an attitude of hostility to improvement and development. He does not deny that, for Thought, the Laws recognised by traditional Logic are valid.

(2) While as regards *A is A*, I have not a word to say for it, and (with Mr. Bosanquet) prefer *A is B*, if a choice must be made between the two,—I must observe that *A is B and A is not B cannot both be true* seems to me to be important, not only as inevitable and fundamental in all the refined applications of a Logic directed to the cure of ambiguity, but also as furnishing the very criterion, by reference to which, in the majority of cases, the suspicion of ambiguity is aroused. We do not suspect ambiguity without some cause, and it is some appearance of incoherence of expression (and inconsistency is the most violent kind of incoherence) that stirs us to doubt and investigation. This I do not understand Mr. Sidgwick to deny, but he makes an objection to this 'Law' similar to that which he makes to the Law of Identity. "In the abstract it is," he says, "of course undeniable that if an assertion is true its contradictory must be false, and *vice versâ;* that is an explanation of the meaning of the word 'contradictory'. But what does this tell us about actual assertion? Since the assertion is not the sentence but the *meaning of the sentence,* to say that we cannot at the same time assent to and deny an *assertion* is no more than to say that our intended meaning . . . really is intended. On the other hand, it is not sure that of apparently contradictory *sentences* both at once cannot express a true assertion, and this is the only way in which the Law of Contradiction can be made applicable, since examples of assertion take of necessity the form of sentences" (p. 163).

To the statement that to assert the abstract Law of Contradiction is merely "an explanation of the meaning of the word 'contradictory,'" I would reply that no doubt contradictory propositions may be defined as propositions which cannot both be true (nor both false), but that here the word defined expresses a meaning which is very important—a meaning which has 'reality' of a very fundamental kind—the definition embodies an 'undeniable truth'. Again, to say that *A is B and A is not B* cannot both be *true*, is, it is declared, "*no more* than to say that our intended meaning really is intended". I should answer that (granting this) an intended meaning is often vague, hazy, incoherent, and an assertor may forget at one moment what he asserted the moment before—so that though any one cannot perhaps, at a given moment, consciously assert or intend a palpable contradiction, he often is not quite clear what he does intend, and often intends to-day something which conflicts with what he intended yesterday. A man may accept "contradictions which he does not see". So that a reference to the abstract law, which ought to be applied in all cases, may be a valuable and very much needed reminder. When again it is said that "it is not true that of apparently contradic-

tory *sentences* both at once cannot express a true assertion," this is no doubt quite undeniable, and it is also undeniable that generally it is only to *sentences* that "the Law of Contradiction can be made applicable, since examples of assertion take of necessity the form of sentences". But it remains true, that the 'abstract' Law of Contradiction is supreme, and we have to take every means in our power—by careful thought and careful use of words—to ensure that we do not through lapse of memory, or vagueness, or stupidity, or by slipshod use of language, infringe it. Sentences are not *mere* sentences, and if sentences contradictory in expression, are not contradictory in meaning, then the expression used needs reform—for even granting that the speaker himself never *intends* a contradiction, if the forms he uses are contradictory, a hearer may no doubt attribute a contradiction to him, and he is also liable to confuse himself.

Mr. Sidgwick's positive doctrine certainly seems to me to be original, full of interest and suggestion, and of real practical value and importance for the avoidance of "bad reasoning". He would allow that much confusion of thought is no doubt due to ignorance, idleness, forgetfulness, want of wide grasp, clear vision, and power of concentration, in the individual mind, rather than to those shortcomings of the average mind which have infected language—but in all cases the *word* is the only convenient handle by which to lay hold of thought, and pin it down for investigation. That all "good reasoning"—when we have got it—goes into the forms of traditional Logic is of course admitted, and I am of opinion that an express theory of good reasoning is in itself of extraordinary interest, if only as formulating what we do or try to do all our lives, and that in all the trouble that we take to clear up in detail our own thoughts or those of others, we have this ideal in view.

In brief, I think that there is room and need both for a theory of good reasoning (though the theories we have may be open to improvement), and for a practical art of avoiding bad reasoning—and that perhaps no one has made more valuable contributions to the latter than the author of the book of which in the foregoing pages I have been attempting to give some account.

E. E. CONSTANCE JONES.

The Limits of Evolution and Other Essays Illustrating the Metaphysical Theory of Personal Idealism. By G. H. HOWISON, LL.D., Mills Professor of Philosophy in the University of California. New York: Macmillan, 1901. Pp. xxxvi., 396.

THE essays contained in this volume are seven in number: The Limits of Evolution; Modern Science and Pantheism; Later German Philosophy; The Art Principle as Represented in Poetry; The Right Relation of Reason to Religion; Human Immortality,

Its Positive Argument; and the Harmony of Determinism and Freedom. The connexion between them consists in their illustration of a metaphysical system which is, in many respects, so novel that it will be well to begin by quoting almost the whole of the summary given in the Preface.[1]

"I. All existence is either (1) the existence of *minds*, or (2) the existence of *the items and order of their experience;* all the existences known as 'material' consisting in certain of these experiences, with an order organised by the self-active forms of consciousness that in their unity constitute the substantial being of a mind, in distinction from its phenomenal life.

"II. Accordingly, Time and Space, and all that both 'contain,' owe their entire existence to the essential correlation and co-existence of minds. This co-existence is not to be thought of as either their simultaneity or their contiguity. It is not at all spatial, nor temporal, but must be regarded as simply *their logical implication of each other in the self-defining consciousness of each.* And this recognition of each other as all alike self-determining, renders *their co-existence a moral order.*

"III. These many minds, being in this natural recognition of their moral reality the determining ground of all events and all mere 'things,' form the eternal (*i.e.*, unconditionally real) world, and by a fitting metaphor, consecrated to the usage of ages, they may be said to constitute the 'City of God'. In this, all the members have the equality belonging to their common aim of fulfilling their one Rational Ideal; and God, the fulfilled Type of every mind, the living Bond of their union, reigns in it, not by the exercise of power, but solely by light; not by authority, but by reason; not by efficient, but by final causation,—that is, simply by being the impersonated Ideal of every mind.

"IV. The members of this Eternal Republic have no origin but their purely logical one of reference to each other, including thus their primary reference to God. That is, in the literal sense of the word, they have no origin at all—no source in *time* whatever. There is nothing at all, prior to them, out of which their being arises, — they are not 'things' in the chain of efficient causation. They simply *are*, and together constitute the eternal order.

"V. Still, they exist only in and through their mutually thought correlation, their eternal 'City,' and out of it would be non-existent. But through their thought-reciprocity with each other, God being included in the circle, they are the ground of all literally originated, all temporal and spatial existences.

"VI. Hence, relatively to the natural world, they are free, in the sense of being in control of it: so far from being bound *by* it and its laws, they are the very source of all the law there is or can be in it. Relatively to God also, and to each other, all minds other than God are free, in the still higher sense that

[1] P. xii. The italics are the author's.

nothing but their own light and conviction determines their actions toward each other or toward God. This freedom belongs to every one of them in their total or eternal reality, be it burdened and obscured as it may in the world of their temporal experience; and its intrinsic tendency must be to fulfil itself in this external world also.

"VII. This Pluralism held in union by reason, this World of Spirits, is thus the genuine *Unmoved One that moves all Things.* Not the solitary God, but the whole World of Spirits including God, and united through recognition of him, is the real 'Prime Mover' of which since the culmination of Greek philosophy we have heard so much. . . .

"IX. These several conceptions, founded in the idea of the World of Spirits as a circuit of moral relationship, carry with them a profound change in our habitual notions of the creative office of God. Creation, so far as it can be an office of God towards other spirits, is not an *event*—not an act causative and effective in *time.* It is not an *occurrence*, dated at some instant in the life of God, after the lapse of æons of his solitary being. God has no being subject to time, such as we have; nor is the fundamental relation which minds bear to him a temporal relation. So far as it concerns minds, then, *creation must simply mean the eternal fact that God is a complete moral agent*, that his essence is just a perfect CONSCIENCE — the immutable recognition of the world of spirits as having each a reality as inexpugnable as his own, as sacred as his own, with rights to be revered; supremely, the right of self-direction from personal conviction. This immutable perfection of the moral recognition by God, let it be repeated, is the living Bond in the whole world of spirits. Did it not exist, did God not exist, there would be, there could be, no such world; there could be no other spirit at all. *Real creation*, then, *means such an eternal dependence of other souls upon God that the non-existence of God would involve the non-existence of all souls, while his existence is the essential supplementing Reality that raises them to reality; without him, they would be but void names and bare possibilities.* Thus in the Divine office designated 'Creation,' exactly as in that denoted by 'Redemption' or 'Regeneration,' the word is a metaphor; but in the one case as in the other, it symbolises a reality, eternal and essential, of a significance no less than stupendous.

"X. The key to the whole view is fixed in its doctrine concerning the *system* of causation. It reduces Efficient Cause from that supreme place in philosophy which this has hitherto held, and gives the highest, the organising place to Final Cause instead. Final Cause becomes now not merely the guiding and regulative, but actually the grounding and constitutive principle of real existence; all the other causes, Material, Formal, Efficient, become its *derivatives* as well as the objects of its systematising control."

Such is the system which Dr. Howison expounds in this work—

not very systematically, but still with great clearness, and with a force and enthusiasm which never become merely hortatory. The standpoint throughout is that of a student, and not of a preacher. Nor is the system unworthy of enthusiasm. There is much in it which it would be good to believe. It establishes immortality on a far firmer basis than is possible on the more common theory by which men are only the creatures (in the ordinary sense, not Dr. Howison's) of a God who is the sole Supreme Reality. "It is impossible for God to be God, apart from souls and their immortality and freedom" (p. 75). And, on the other hand, it offers a God of whom personality, morality and affection can reasonably be predicated, since, though perfect, he is finite. (I am not sure if Dr. Howison would accept the word finite, but in effect, it seems to me, he holds God to be finite, since he makes him one of a community of spirits, each of whom has "a reality as inexpugnable as his own".)

The proof naturally falls into two divisions. (1) Is the ultimate reality a "City of God," consisting of a plurality of finite and eternal beings, of whom each of us is one? This, according to Dr. Howison, is, in logical order, the first question to be answered. And then (2) is one of these Spirits a perfect being, the type and end of all the rest, who may fitly be called God?

For the first of the problems Dr. Howison thinks that a solution can be found in the demonstration of an Idealism closely resembling Kant's. "Our discussion," he says (p. 304), "in proving Time to be an expression of each mind's spontaneous activity, proves the self-active existence of every mind as such, and so establishes the eternity of the individual spirit in the only ultimate meaning of eternity; since as the ground and source of Time itself, the being of the soul must transcend Time, though including Time."

Two points suggest themselves here. The first is that, while Dr. Howison follows Kant up to a certain stage, he then abruptly separates himself from him. He treats Time as an *a priori* form of experience, and draws Kant's conclusion that the self cannot be in Time. But Kant goes on from this to the further conclusion that the self cannot be known at all by the Pure Reason, while Dr. Howison, on the other hand, maintains that it can be known by the Pure Reason to exist, and to exist eternally. It would surely have been better if Dr. Howison had given his reasons for rejecting his master's criticisms on the Paralogism of Pure Reason. As far as I can see he simply ignores them.

The other point is perhaps more serious. Time is an expression of each mind's spontaneous activity, and, therefore, if I understand the argument rightly, it cannot apply to the mind itself. But surely such ideas as Unity, Plurality, Final Causality, Organic Unity, are in the same position. These are clearly not part of the matter of intuition, and what else, on the principles of Kant and Dr. Howison, can they be except forms of experience? Yet the latter does not regard the self as transcending them, for he describes the selves, and the City of God which they constitute, in

terms of those ideas, while refusing to describe them in terms of Time. He has doubtless good reasons—many could be suggested —for treating these categories as more adequate to reality than Time is, but they are not brought out, as far as I can see, anywhere in the book.

I cannot but think that Dr. Howison could have proved his position much more strongly if he had started from Fichte or Hegel instead of Kant. We are told in the Preface (p. xxvii.) that the earlier essays were originally more Hegelian, but that this element was eliminated when the author became aware of the hopeless contradiction between Hegelian monism and the affirmation of personal reality and individual freedom. I doubt very much whether any monism to be found in Hegel's Logic is incompatible with personal reality and individual freedom. But even if my doubt is unfounded, it would be possible to look at the relation of the categories to experience from the standpoint of Hegel, and yet to leave as ample a place for personal reality and individual freedom as could be found in any possible Idealism.

Dr. Howison never allows his keen practical interest in his conclusions to masquerade as a reason for believing in them. "The unfavourable bearing of a doctrine on hopes indulged by man cannot alter the fact of their truth" (p. 5). But, he goes on to point out, "we have at least the right, and in the highest cases we have the duty, to demand that we shall know what its bearings on our highest interests are. If the truth bodes us ill that very ill-boding is part of the whole truth; and though, unquestionably, we should have to submit to it, even though it destroyed us, it cannot follow that we could approve of it, or that we ought to approve of it."

It is not, therefore, as an argument, but only as an important truth, that we are to count his very profound remark that only an eternal being can really be free. A being who is created (in the ordinary sense of the word) by another has his entire character determined by the will of that other being. It is to his creator, and not to himself, that his actions must in the last resort be attributed. On the other hand, a being who exists eternally in his own right acts from his own nature and from nothing else. This ensures that his action is really spontaneous, and, in the case of a conscious being, the spontaneity must take the form of choice. These two requisites are all which are required for freedom, since the freedom of caprice is equally impossible and undesirable (pp. 319, 332).

We must now consider the second question—among the eternal selves is there one, and one only, which is perfect, and which is rightly called God. Here Dr. Howison agrees very closely with Leibniz. Speaking of the number of souls he says "the series must certainly run through every *real* difference, from the lowest increment over non-existence to the absolute realisation of the ideal Type" (p. 354). Among the different grades which are thus really possible, and exist, Dr. Howison assumes that the highest grade of all—that of the ideal Type—is one, and consequently that a being exists

who realises the Type. (So far as I can see he does not attempt to prove this, and, indeed, it might be difficult to find a proof which did not prove too much, by demonstrating not only that the perfect being was possible, but that all others were impossible.) All the rest of the vast number of beings (a number, however, which is finite, p. 354) must be differentiated from the perfect being. And this can only be done by means of a degree of imperfection in each of them. "The personality of every soul lies precisely in the relation . . . between that genuine infinity (self-activity) which marks its organising essence, and the finitude, the exactly singular degree of limitation and passivity, to which the infinity subjects itself in defining itself from God" (p. 363). Thus there is one perfect being and one only.

The weakness of this argument, it seems to me, lies in the assumption that beings who were equally perfect could not be different from one another. What is there to prevent them from being equally perfect in different ways? This might, indeed, have been impossible for Leibniz, whose selves were monads, entirely isolated from one another. But Dr. Howison's selves are not monads. They are united in the City of God, and this not externally but as a necessary part of their nature. Outside that union they could neither exist nor be conceived. And in this more than organic unity differentiation need not involve—if, indeed, it does not exclude—the inferiority of one to another.

I cannot agree, therefore, with Dr. Howison in holding that only one being could be perfect. And, going further, I would venture to suggest two questions. We have been told that all the selves are eternal. Can that which is imperfect be eternal? Again, we have been told that all the selves form an intimate unity. Can one member of such a unity be perfect while the rest are imperfect?

On these grounds I should be inclined to say that not one but all of the souls in the City of God must be held to be perfect. If an opponent should remind me of the notorious imperfections in the present lives of each of us, I should point out that every self is, as Dr. Howison calls us, in reality eternal, and that its true qualities are only seen in so far as it is considered as eternal. *Sub specie æternitatis*, every self is perfect. *Sub specie temporis*, it is progressing towards a perfection as yet unattained. The sceptic might find a difficulty in the assertion that the perfect manifests itself in the imperfect. But this should prove no difficulty to those who agree with Dr. Howison that the eternal manifests itself in the temporal.

Such a view as this would be condemned by Dr. Howison as "apeirotheism" (p. 361). I think that it would be more fitly called pantheism, since it would rather be the City of God than the individual souls which had replaced the personal God of orthodox theology. But I submit that the word God and its derivatives are inappropriate in describing both this view and that of Dr. Howison. Ever since the spread of Christianity God has meant, for the

western world, a person who is the sole self-existent being. Popular usage would not recognise as God any being who was not a person, or who was not the only self-existent being, by whom all things else were made. And, in the case of a word which is used by all mankind, philosophic usage should conform to that of ordinary life. It can only lead to confusion that Spinoza should have spoken of an impersonal Absolute as God. And it can, I think, only lead to confusion that Dr. Howison should apply the same name to a member of a community of self-existent souls, even though it is the only perfect member.

It is rather difficult to discover whether Dr. Howison considers that God's superiority over the other souls is permanent. That it should be permanent seems required by the general tenor of the argument and by the passage quoted above from page 363. On the other hand, in an earlier essay he speaks of the grace of God which "accords to its object the prospect of equality with the source of it" (p. 248). And again of the "potential equality with God" of all spirits.

I have left myself no room to comment on the other subjects touched on in this most remarkable work, but I cannot close without expressing a special admiration for the essay on the "Right Relation of Reason and Religion," and for the delicate and courteous humour of the remonstrance with Dr. William James (p. 372). For the book as a whole all students of philosophy will be grateful to the author, and, outside the ranks of specialists, it ought to attract much attention and do much good.

J. ELLIS McTAGGART.

Studies in the Hegelian Cosmology. By JOHN McTAGGART ELLIS McTAGGART, M.A., Fellow and Lecturer of Trinity College in Cambridge. Cambridge: University Press, 1901. Pp. xx., 292.

READERS of *Studies in the Hegelian Dialectic* must have been moved to hope for a complementary set of "studies" from the pen of its brilliant author when they read his short, but pregnant, final chapter on the practicability of applying the conclusions of Hegel's Logic to the solution of concrete problems. Such an application, it was there suggested in conformity with the Hegelian tradition, might have either of two objects—the determination of the nature of ultimate reality, or the interpretation of the facts of our daily life. These, then, are the two tasks that the present volume undertakes in a measure to fulfil. Cosmology means Applied Dialectic. And that, perhaps, is about as much as it does mean. So liberally indefinite is it in scope that it leaves us at liberty to range backwards and forwards as we will from heaven to our poor planet. At one moment we are at the sublime level of what M. Raoul de la Grasserie would call "Cosmosociology," as

when we inquire why the Absolute cannot say—I am. At the next moment we plunge into Sociology at its least cosmic, as when we consider how a caning may be in different ways both good and bad for the schoolboy. Indeed, seeing what prominence is given in Mr. McTaggart's philosophy to the distinction between the timeless and the temporal aspects of the universe, it seems a pity that he should not have found it convenient to group his topics under corresponding heads. As it is, the natural disconnectedness of these (to which allusion is made in the Introduction) is perceptibly enhanced by—shall we say?—art. Thus chapters ii. and iii., dealing respectively with human immortality and the personality, or rather impersonality, of the Absolute—the two sides of one and the same doctrine—go closely with chapter ix. on the Absolute as love; whilst chapter viii. on Hegelianism and Christianity, though perhaps primarily historical in its object, is, on account of its preponderating theoretic interest, most naturally studied in close connexion with the antitheistic conclusions of chapter iii. On the other hand, chapters iv.-viii., which severally treat of Pleasure as the moral criterion, punishment as purification, sin as the stepping-stone from innocence to virtue, and the relation of the individual to the so-called "organic" state, form, it is true, a homogeneous series, in so far as they are all concerned with the explanation of "particular finite events". But why make the Ethics and the Politics alternate? And, more especially, why put the chapter on the state last, when it is so obviously fitted to lead up to the verdict of a previous chapter, to the effect that Hegel's view of punishment is inadmissible in jurisprudence?

Conceding, then, to Reality, as in duty bound, the precedence over Appearance, let us first turn our attention to the transcendental group of chapters. In them, one may gather, Mr. McTaggart feels himself to be on relatively firm ground. But the ground is only relatively firm. Not that the absolute validity of the Hegelian Logic is ever in dispute. That is taken as granted; and no opportunity is offered to the critic of raising the previous question. Our author, however, unlike certain of his brethren, is prepared to regard the transition from Logic to Metaphysic as something of a leap into the air. A category of the Logic is one thing, the concrete example after which it is named is another. Thus Cognition (Erkennen), for which Consciousness is suggested as the more adequate expression, represents but an essential element in our actual Cognition, or Consciousness. Meanwhile, to distinguish essence from accident in the blurred experiences of present existence is uncertain work. Take the case of death. Death, as Mr. McTaggart has elsewhere said, in a sentence which only a believer in immortality or an Irishman could have written, is "one of the most prominent facts in the life of each man". Is, then, this prominent fact but an accident? That in heaven Consciousness will be manifested we know—if Hegel knew anything. But shall we, who manifest it now so imperfectly, be its final impersonators?

Mr. McTaggart decides that we shall. For the realisation of the Absolute Idea involves differentiations which have sufficient "vitality" to stand against the unity—for which the whole is just as much as they are for it; and such fundamental differentiations, he argues, are not imaginably other than the selves with which we credit one another. (How we come to discover selves in one another is a mere question of Origin, and need not detain us.) So much for the "that" of immortality. The "what" is another matter. To get the selves outside one another enough to leave them individual and yet inside one another enough to provide each with its complement of universe, proves a ticklish business, even when the goddess Substance descends from her machine to arrest the circular process, or when the self-justifying irrationality of certain (query—the highest?) forms of love is taken as a sign of its power to dispense ultimately with all determination from without. But our author makes a virtue of necessity. "The self is so paradoxical that we can find no explanation for it except its absolute reality"; the alternative being "complete scepticism". Well, it may be a case of neck or nothing when the good mare Logic is forced into jumping ditches. But why make her jump at all, when there is plenty of honest work that she can do on her four feet? As regards the other branch of this subject, the Absolute is explained on the analogy of a college. It is Trinity basking in a perpetual Long Vacation. The communing spirits interpenetrated by love constitute a universe each for each; and even as the unity is (literally) *for* the differentiations, so likewise are they (metaphorically) *for* the whole. Mr. McTaggart urges against Lotze's absolute whole of parts that while there is nothing in them which is not in it, there is something in it which is not in them; whereas the Hegelian category of Life requires unity and plurality to be in absolutely reciprocal relation. But surely his own Absolute simply inverts Lotze's. His absolute content is manifested, the substantial individuals manifest themselves. Mr. McTaggart, indeed, makes it as hard as he can for us to express this unlikeness intelligibly, since he will not suffer us to attribute either cognition or volition as such to ultimate reality. We cannot, therefore, say that the selves have uniqueness in that they are self-distinguishing or in that they initiate or support their own activities or states. Yet surely we can say at least this: that when they love they are the lovers whilst the Absolute is merely their love; that they are subjective-objective, whereas it is merely objective; that they are spirits and persons, and it merely spiritual and personal. But this is not perfect reciprocity of relation. Trinity may provide the dinner, but it is the Fellows of Trinity who eat it. And the use of these transcendental speculations? No use in particular, but a general use as follows. "The use of philosophy lies not in being deeper than science, but in being truer than theology—not in its bearing on action, but in its bearing on religion. It does not give us guidance. It gives us hope." It enables us to attain "to what

may be called the religious standpoint"—that is, apparently, to a standpoint from which we can say "that the Absolute is not God, and, in consequence, that there is no God". Of course things may seem to go wrong here and now—not that it "really" matters. But we know that "the gap between the perfect and the imperfect has to come in somewhere". So let us be philosophers, and seek peace and consolation in congratulating our true selves on the fine time—or rather timelessness—that they are having on the other side, where they can afford to be more independent in their attitude towards the Absolute than even Mr. Kipling's "gentlemen unafraid".

Turning now to the chapters that have regard to the phenomenal aspect of the universe, we reach a region of darkness which the Logic serves but to render the more visible. For perfection as an End may be, as we have seen, of general use as a ground of self-congratulation. As a Criterion, however, it is of no use at all, since Thesis and Antithesis bid for us by turns, and it may be that the next tack is destined to bear us, to all appearance, further than ever from the harbour. As Mr. McTaggart puts it, with a fine mixture of metaphors, "efforts to become perfect as the crow flies will only lead us into some blind alley from which we shall have to retrace our steps". Meanwhile, there is a curious parallelism between our author's conception of the relation of our heavenly selves to the Absolute and that of the relation of our earthly selves to society. The logical bond between the two views is possibly non-existent, but one cannot help suspecting a psychological connexion. Just as God is reduced to a content, so the state is reduced to a means. We are no longer "in the same childlike relation to the state as was possible in classical times". To us society is no more than a merely external means to the welfare of the individuals who compose it. Now God, we saw, could be compared with a college. Let society, then, be compared with a school. "The end of a school . . . is the well-being of the boys, and the boys from the school. Nevertheless, the school is not an end in itself. For boys leave school when they grow up, and the end of the school is their welfare throughout life, when they certainly will have left school, and may easily be completely isolated from all their old school-fellows." So too, then, there might be in store for us conditions of being that could only be realised when society itself had ceased to exist. Now such a view of society is obviously well adapted to lead up to Hedonism, the Hedonist being the man who holds that the one end of society is to make the sum of pleasures felt by its individual members, taken as isolated beings, as large as possible. Mr. McTaggart's position differs, indeed, from the one described in certain respects. He would, for instance, substitute "criterion" for "end". But the difference, if speculatively vast, is practically little or nothing. For, morally or politically, the Idea of the Good cannot help us to any decision whatever. Sup-

pose, for example, that we are discussing the question of the abolition of marriage. How copy the pattern laid up in heaven? For "in a world of pure spirit there could be no sexual desire, and in a world which was timeless there could be no propagation of children" — which "two elements," as our author justly observes, "have considerable importance when we are dealing with marriage". Hence nothing is left but to calculate the loss or gain of happiness that would follow from the change. For the "calculation" of pleasures—a better word, it is suggested, than "calculus," which "as a technical term of mathematics seems to imply a precision unattainable, on any theory, in ethics"—*does* give us a sufficiently definite criterion of action. What if pleasure be a mere abstraction? So is wealth. "No ship contains abstract wealth as a cargo. Some have tea, some have butter, some have machinery. But we are quite justified in arranging those ships, should we find it convenient, in an order determined by the extent to which their concrete cargoes possess the abstract attribute of being exchangeable for a number of sovereigns." Well, the question is too big to discuss here. Suffice it to say that the moral which seems to loom out through these disquisitions touching Appearance is that speculations about the changeless when applied to this world of change leave us very much where we were before. And, in particular, one cannot help suspecting that Mr. McTaggart was well disposed towards Hedonism and Individualism, ere ever he betook himself to Cosmology and essayed, as it were, to categorise Swedenborg.

One word more. Those who are least in sympathy with the underlying assumptions of the present treatise, and to whose minds its leading conclusions are therefore least capable of carrying conviction, cannot but gratefully acknowledge its remarkable power, lucidity, candour, and charm. Be its total effect as a piece of systematic thinking what it may, the book is at all events in respect to its contents considered piecemeal a veritable mine of good things. With the non-Hegelian, then, it is likely to rank as a philosophic classic no less than with the Hegelian. Meanwhile, the latter no less than the former may possibly tend to accord to it something in the nature of a mixed welcome. For, if Mr. McTaggart's exposition of his master's views be sound, there are Hegelians not a few and not the least representative that have strayed very far from Hegel.

R. R. MARETT.

Beiträge zur Akustik und Musikwissenschaft. Ed. by Dr. CARL STUMPF. Heft 3. Price, Mk. 6.50. Leipzig: Johann Ambrosius Barth, 1901.

IT is satisfactory to note the increasing number of contributors to this newly established periodical. The present number consequently covers so wide a field that it is difficult to predict to what

class of readers the journal will most appeal, to the scientific student of music or to the musically inclined physiologist, psychologist or physicist.

Perhaps the most interesting papers for the psychologist are two closely allied experimental studies by O. Abraham and K. L. Schaefer, on the maximum rapidity of consecutive tones ; and by O. Raif on the maximum mobility of the pianist's fingers. In a succeeding paper O. Abraham applies the results gained by him above to the question of the persistence of tone-sensations, *i.e.*, the after-sensations of tones. In the experimental part of his paper the late Prof. Raif finds that the most practised and celebrated performers cannot play more than twelve consecutive notes per second. This limit of finger-mobility agrees closely with the results of experiments described in the first of the above papers, when Raif and Abraham, both gifted with absolute pitch-estimation, endeavoured to commit to paper a series of four or five notes produced from a very swiftly rotating siren. The greater part of Abraham and Schaefer's paper, however, is concerned with estimating the limit of rapidity with which two successive tones, played by a siren, can be heard distinctly. A siren, provided with two independent series of holes, is rotated with increasing speed until a point is reached where the two notes blend together. A similar set of observations is also made when the speed of rotation is lessened until the two tones can just be separately distinguished. The pitch of the lower of the two tones is determined at the required point by the questionable method of reliance on Abraham's absolute pitch-estimation (*absolutes Tonbewusstsein*). The duration of the tones is estimated by a simple calculation. The interval of the tones remains, of course, unchanged by the rate of rotation of the siren. Through a range of six octaves, save at the extreme limits, these experiments give an almost uniform result of 0·3 sec. for the minimum duration of each of two immediately consecutive tones. Abraham attributes to differences of method the contrary conclusions previously reached by A. Mayer and Urbantschitsch who, reckoning the number of interruptions necessary at different pitches to convert a single continuous into an interrupted tone and *vice versâ*, believed that the length of the pause necessary for the recognition of two identical successive tones is a function of the vibration-number of that tone. He also adopts the questionable hypothesis that higher tones produce a more intense sensation than lower tones of equal vibration-amplitude ; and he argues therefrom that in Mayer and Urbantschitsch's experiments (why not also in his own ?) two higher tones can follow each other more quickly than two lower ones, as the same requisite difference is still preserved between the intensity of the after-sensation of the first and the intensity of the second tone-sensation. After these and other criticisms of possible objections, Abraham submits the view, suggested by his and Schaefer's above experiments, that all tones have after-sensations of the same length, independent of

pitch. Surely he is here striving to make a science run which can scarcely yet walk. Can we be certain that the tones produced by his mouth-blown siren remain of constant intensity independent of pitch? The duration of the after-sensation of a tone must clearly depend on the intensity of that tone. Again, is it conceivable that the sum-total of the after-effects, produced by a tone of whatever pitch, upon the membranes and ossicles of the middle ear, on the apparatus of the inner ear, and on the peripheral and central nervous system, remains of constant duration? Finally, are we to suppose that the variable minimum duration (dependent on pitch) of a single just audible tone is time spent solely in "getting up steam" within the auditory apparatus; or does it not more probably determine to some extent the length of the after-sensation, which may consequently be similarly variable?

K. L. Schaefer contributes a more purely physiological paper on the determination of the limit of the lowest audible pitch. He attacks the problem in two ways. In the one he employs difference-tones, in the other intermittence-tones; and he arrives at discordant conclusions. The method of difference-tones yields a fairly uniform result of thirty vibrations per second, while that of intermittence-tones gives a limit varying from twenty-five to sixteen vibrations per second, according to the pitch of the fundamental note, and according as the siren's disc is made of wood or metal. In the latter method, he calculates the lowest audible intermittence-tone yielded by a rotating siren, the disc of which contains a known variable number of plugged holes. To determine the pitch of the fundamental tone he relies on Abraham's faculty of absolute pitch-estimation. The variable results obtained by this method are perhaps due to over-reliance on the accuracy of his colleague's powers. However, the afore-mentioned dependence of the pitch of the just audible intermittence-tone on the pitch of the fundamental tone of the siren, and on the material of its perforated rotating disc suggests that the disc may itself give forth some low tone conditioned either by its material, its rate of rotation, or by the impact of frequently stopped vibrations against its surface. No doubt, by employing in his first method difference-tones produced by tones that are near the upper limit of pitch, Schaefer may claim to have avoided the past errors of Preyer and others, who have not been sufficiently alive to the presence of (audible) over-tones in addition to the (really inaudible) tone which they have supposed to be the lowest audible limit of pitch. Yet it is to be regretted that more tangible and less disputable means than intermittence-tones and difference-tones had not been available for the purpose. For the method of difference-tones, Schaefer uses two carefully graduated Galton-whistles, which bear scales so minutely divided that it seems absurd to place great reliance on the results. He sets the whistles so as to produce a just audible difference-tone. Then, by means of tuning-forks, he estimates the pitch of the difference-tone, which each whistle so set produces

with the other whistle, when set at a known pitch considerably different from either of them. The difference in vibrations of these latter two difference-tones gives the pitch of the just audible difference-tone first produced. It is remarkable that the results thereby obtained are confirmed by similar experiments undertaken with tuning-forks and other instruments at lower, and more easily calculable pitches, where overtones, although present, are not sufficiently intense to interfere.

Prof. Stumpf contributes a paper on subjective tones and double hearing,—a lengthy series of self-made observations on various pathological affections of his hearing during the past twenty-seven years. It is from certain aspects regrettable that he has not more clearly distinguished the subjective sensations, which preceded his attacks of otitis media, from those accompanying and following the illness and its attendant operations. He divides his subjective tone-sensations merely into two classes, the one being of almost constant pitch, usually localised in the right ear, and probably due to changes in intratympanic air-pressure, the other variable shorter tones of uncertain origin affecting either ear indiscriminately. He never observed two variable subjective tones in one and the same ear; but consonances and dissonances frequently occurred owing to the simultaneous affection of the two ears by variable and constant subjective sensations respectively. Dissonances also occurred during the binaural double-hearing which followed his second attack of middle ear-inflammation and paracentesis, when a given tone appeared slightly higher to one ear than to the other. In no case, however small the dissonance-intervals, were beats ever heard. This supports the view that beats owe their existence to changes in the air external to the tympanum.

Two laborious papers by P. v. Jankó on tempered scales of more than twelve notes and by Stumpf and Schaefer on calculated tone-vibrations, call for no remark. The two remaining articles are by the late Prof. Fillmore—a short description of twelve American-Indian songs—and by Prof. Stumpf on the music of the Siamese. The latter is a most elaborate, if somewhat diffuse, study of the subject, occupying seventy pages (nearly a half) of the current *Beiträge*. A Siamese orchestra visited Berlin in 1900. Their music was studied both at public and at private performances, and by aid of the phonograph. The pitch of their various instruments of percussion was determined by accurately tested tuning-forks. Musical experiments, not numerous enough to be conclusive, were made on some of the performers. A complete orchestral score was prepared by one of their pieces. Altogether the work is a model of what an accurate investigation into the music of a strange people should be. Stumpf's results confirm Ellis's previous conclusions that the Siamese divide their octave into seven equal intervals. The Javanese have a scale of five equal intervals. Stumpf supposes (but omits evidence) that in the middle tone region the distances of notes, whose vibration

numbers stand in a constant ratio, are not judged sensibly different, so long as the intervals are small and those of different tone-regions are not compared. He believes that the Siamese and Javanese, having decided to base their respective scales on the mystic numbers of seven and five, divided the middle tone-region accordingly into the required number of equal intervals. In Siamese music, at least, the sense of consonance has also had considerable influence. Fourths and octaves are frequently used in their orchestral pieces, and receive special names. The fourth is used in tuning their instruments, octave-notes being first tuned and then fourths from either end inwards. The intervals are sounded consecutively, not simultaneously, during tuning. The pure fourths thus obtained by the judgment of consonance are tempered by trial until equal intervals are given throughout the scale. Stumpf has previously shown that we ourselves prefer falsely exaggerated octaves and thirds under certain circumstances. He believes that the Siamese have similarly accustomed themselves to the exaggerated fourths and other intervals of their own scale. He notes that their whole tone, corresponding to our three-quarters of a tone, is offensive when replacing our semitone, but successfully passes for our whole tone; and that two of their tones compass an interval adjudged by us as a minor or major third according to circumstances. We are so far influenced by our own scale, where the intervals *c-e-g*, *c-g-b*, form respectively major and minor triads, that, in playing the first, third and fifth, and the third, fifth and seventh intervals of the Siamese scale, we fallaciously conclude that these really equidistant notes form major and minor triads also. In spite of a heptatonic scale, Siamese music is virtually pentatonic. Fourths and sevenths are almost wholly excluded. Stumpf regards the exclusion of these tones as a compromise necessitated by the conflict of equidistant intervals with the judgment of tone-consonance; he finds that the Siamese artificial fourths and sevenths are particularly objectionable to our ear, a seeming contradiction in view of the importance ascribed above to the former interval. Those who have studied elsewhere the music of savage and semi-civilised peoples may find it difficult to believe that method and culture were sufficiently advanced among the Siamese to enable what Stumpf supposes ever to have taken place. They may think that further work on a greater variety of instruments and on the music of allied races is needed before reliable judgments can be formed. But they will not refuse their cordial recognition of the great importance of the contribution to comparative music now before them.

CHARLES S. MYERS.

The Play of Man. By KARL GROOS. Translated, with the author's collaboration, by ELIZABETH L. BALDWIN, with a preface by J. MARK BALDWIN. London: William Heinemann, 1901.

PROFESSOR GROOS' theory of Play, as it was first put forward in *The Play of Animals*, has already become classical, and has met with so ready acceptance on the part of biology and psychology alike, that any detailed account or discussion of it is superfluous. In the work which is here translated, the theory is extended, or applied, to the Play of Man: at the same time many questions of æsthetics are touched, and suggestively treated, — the origin of Music, of Art generally, the nature and ground of our delight in Comedy, of our sober enjoyment of Tragedy—all of which are or have been held to be connected with the Play-impulse. In the part dealing with the System of Play, there is a valuable classification of the kinds of play, and an interesting collection of examples from all times and countries.

In deference to the criticisms of Baldwin and others, the theory in this second work departs in certain directions from its original form; the divergence is partly conscious and partly unconscious. While the biological criterion of play still stands,—that "it shall deal, not with the serious exercise" (of the instinct concerned) "but with practice preparatory to it," more stress is laid on the demand that this practice shall "respond to definite needs"—*i.e.*, a present want, and shall be "accompanied by pleasurable feelings". All the sub-conscious, or shall we say psychophysical, tendencies and dispositions with which the young animal,—the human most of all—is from birth endowed, need activity, exercise, and the need is felt. Thus the sensory regions (of the cortex?) betray their presence from the first by a feeling, or need, or impulse towards their corresponding stimuli: the satisfaction of the young in mere seeing, hearing, touching, still more in bright sights, loud sounds, varied touches, is an index both of a want that has been felt, and of a power that may be developed. So the "experimentation" of the child,—his restless pursuit and exploiting of things to see, hear, feel, and taste, as well as his equally restless pursuit of things to do,—is rightly brought under the Play-impulse: he is satisfying definite needs, hence the pleasure he derives from it, but at the same time he is exercising and strengthening his powers, before there is any serious use for them, and that is play. What is true of the senses is said to hold also of perception, even of memory, imagination, reason and will, while a large number of plays and games are skilfully arranged as examples of the playful exercise of those higher powers. There is a danger of the old "faculties" creeping into psychology by new paths. A need, a want, which "corresponds to," or is somehow connected with the presence of unstimulated sense-regions in the cortex, has enough analogy with the want of food to be comprehensible: but the analogy fails in the case of memory, imagination, and the rest. These cannot

have separate *areas* devoted to them; they have as their physiological basis only certain groups or forms of combination, of the sensory brain-elements. Before such groups exist, there can be no felt need arising from them, and the existence of one cannot constitute or give rise to a need for others. We surely cannot argue back from every satisfaction to a need which preceded it, and which was *felt*. Nearly all these higher forms of play can be explained without assuming a pre-existing, specialised need. Groos himself makes much greater use here of the *desire for conquest*, the love of combat, whether with one's neighbours, with external objects or circumstances, or with oneself,—"an essential element in all play". "Play leads up from what is easy to more difficult tasks, since only deliberate conquest can produce the feeling of pleasure in success" (p. 8); the "pleasure in overcoming difficulties is an essential feature of all play" (p. 39) and is traced to the fighting-instinct; of similar origin is the joy in being a cause, and, it may be added, the joy in finding causes, which every child shows. "There are many running games whose attraction consists in the difficulties to be overcome" (p. 84),—so of jumping games, of endurance-plays, and many others. Even in learning to walk, apart from the instinctiveness of the action, the element of delight in success greatly enhances the pleasure of the first beginnings (Froebel, p. 82). The pleasure of throwing in the many throwing-games is traced (with Sigismund, Souriau) to "the projection of our individuality into a wider sphere of action,"—*i.e.*, the extension of our power and consequent delight therein. Among higher powers, the pleasure of *recognition* was identified by Aristotle with that of solving a riddle: "this would make enjoyment of recognition identical with that derived from overcoming difficulties, and there can be no doubt that it is an important element in all art-appreciation, if it be not, indeed, the very kernel of æsthetic enjoyment"[1] (p. 125). So curiosity is traced to the "impulse to bring everything within our own powers" (p. 147). Even the enjoyment of the tragic, and of the comic, springs from the fundamental fighting instinct: with the tragic, it is joy in a combat with external forces, with fate, or with human weakness which we inwardly repeat (by *Einfühlung*, "inner imitation"): with the comic, the feeling of triumph in our own superiority over the subject of ridicule, blends with our inner imitation of the subject itself. We first become, in play, the incongruous, ridiculous thing, then recognise the superiority of our real self to our temporary play-self, and delight in the contrast. No doubt our interests largely determine in what directions the fighting-instinct shall be specialised, but these depend to an infinitely greater extent on tradition, education, and opportunity, than on inherited "dispositions" or "needs".

Again in the theory of Imitation, and Imitation-Play, Groos

[1] The German does not bear this out: presumably the change is accepted by Groos himself (v., p. 154).

has modified the view of *The Play of Animals*, where he classed imitation as an "instinct," a term he now discards for that of "impulse". An instinctive act must be a specific reaction to a definite situation or stimulus, whereas in imitation "we have a thousand varying reactions, for as the stimulus (the model) varies, the whole character of the reaction follows suit" (p. 284). The impulse is accounted for (1) by the psychophysical adjustment under which the idea of a movement tends to its realisation, and (2) by the limitation of this through inherited instincts or tendencies; only when the movement idea falls in with one of these does it tend to action: the young lion does not seek to imitate the bird flying, nor the fish swimming. Even in this modified form, however, the theory does not help us over the crucial difficulty of imitation-psychology,—how the perception of an action in animal *B* should become the idea of a corresponding action in the mind of animal *A*: it is only this latter idea that tends to be realised in the actual movement of *A*. An older child's imitation of its elders is *conscious*, their actions are interpreted as means to a desired, if vague, end, and are imitated accordingly. In the imitations of very young children and lower animals this is not the case. When a chick pecks imitatively, either at the sight or the sound of the mother-hen pecking, there is no translation of the sound- or sight-image of external movement into idea of the chick's own action. The tendency to look for imitation everywhere is somewhat overdone; rather the actions by the lower animals are never imitative, except to the outside observer: the appearance of imitation is due to the fact that the attention of the young animal is from birth onwards centred in the mother or in both parents, that almost all young animals have the following instinct more or less developed, and that animals, like men, follow in their actions and in their mental life the line of least resistance. A sheep jumps when another has jumped, not because it imitates, but because its attention is drawn upwards by its leaping fellow: the chick pecks at the sound of tapping, because its attention is drawn to the ground, where the sight of the grain calls out the pecking-reflex. Imitation is not an instinct because it is never unconscious: and Thorndike's experiments showed that conscious imitation is very difficult to find in animals. His subjects did not imitate the actions of their neighbour dogs or cats, because they could not attend to them.

Naturally, in the Play of Man, the *rôle* of Suggestion is much greater than in that of Animals, and Prof. Groos opens many interesting questions as to its action: in social plays—the school of citizenship,—in musical and dancing-plays, the origin of the higher arts, the player is thrown into a state of high suggestivity, resembling the ecstasy, or the hypnotic trance. In the one case it is the personal influence of the leader, or the mere fact of belonging to a crowd or group: in the other it is the hypnotic effect of rhythm, of monotonous movement. The result is to

give a strong sense of reality in the game,—play though it be. The more real the game for the time being, the greater its enjoyment, and the greater its educative effect.

I have only touched on one or two of the innumerable points of interest the work raises, and where I have criticised, it has been to suggest problems rather than to depreciate in any way a most valuable contribution to Psychology. One has to regret that in spite of the author's collaboration, its translation leaves much to be desired, and hardly does justice to the German original. Sentences to which no meaning can be attached read quite clear in the latter; as, for example, page 232, "Sully and Ribot attempt to unite them," etc.—and p. 295 in the German edition: page 234, "In all those relations," etc.; page 344, "When the display of one's excellencies," etc. (in the German, p. 444, *wenn* is an 'if,' not a '*when*'). On page 233 "*zur Voraussetzung*" is apparently translated 'to the occasion'; page 234, *ausser-ästhetisch* is 'external' ("an external sense of triumph," *cf.* German p. 298); page 240, *Schuss von der Kanzel*—'Shots from the Chancel,' and *Gemse*—'goat'; page 288 (German, p. 370), *völlig verschiedene Reactionen, i.e.*, a number of quite diverse reactions, becomes "quite an involved reaction"—a very different matter; on page 289 (German, p. 370) a meaningless "and sensation as well" is found to be *Die Freude am Auchkönnen;* page 381, a distorted translation is rendered quite unintelligible by the printer's omission of a line; page 362 (German, p. 468) *übermässige Bereitwilligkeit* is "inherited readiness . . .". The proof-reading, especially of the German quotations, should be more carefully done for the second edition; there are three errors on page 36 for example.

J. L. McIntyre

VI.—NEW BOOKS.

Fact and Fable in Psychology. By Joseph Jastrow, Professor of Psychology in the University of Wisconsin. Boston and New York: Houghton, Mifflin & Co. 1900.

Prof. Jastrow has republished a number of essays more or less popular in tone and scope, and originally contributed between the years 1888 and 1900 to such organs as *The Popular Science Monthly*, *Harper's Monthly*, *Scribner's Magazine*, *The Cosmopolitan*, *The Ægis*, *The New Princeton Review*. The subjects discussed in the volume include the following topics: "The Modern Occult; The Problems of Psychical Research," "The Logic of Mental Telegraphy," "The Psychology of Deception," "The Psychology of Spiritualism," "Hypnotism and its Antecedents," "The Natural History of Analogy," "The Mind's Eye," "Mental Prepossession and Inertia," "A Study of Involuntary Movements," "The Dreams of the Blind". "The present collection of essays," he tells us in the preface, "is offered as a contribution towards the realisation of a sounder interest in and a more intimate appreciation of certain problems upon which psychology has an authoritative charge to make to the public jury." It aims to show that "the sound and profitable interest in mental life is in the usual and normal, and that the resolute pursuit of this interest necessarily results in bringing the apparently irregular phenomena of the mental world within the field of illumination of the more familiar and the law-abiding". Since what Prof. Jastrow means by "the realisation of a sounder interest" is mainly to be gathered from the second and third essays in the book (the remaining essays are to be considered as exemplifications of his principle), we will devote most of our space to an examination of his criticism of what is termed "psychical research". The doctrine, when clearly stated, is not one which is ever likely to be put in question. There is no doubt that it is more profitable to study certain phenomena than to study others; and again, it is obvious that the little-known should be, whenever possible, interpreted on the analogy of the better-known. The only difference of opinion which exists between Prof. Jastrow and some other psychologists consists in a difference of opinion as to the limits of applicability of an unavoidable canon. We wish it to be clearly understood that we do not argue on the assumption that any particular interpretation of still disputed facts is the correct one; but that we merely confine ourselves to a discussion of method. From this point of view the motives which impel investigators to study thought transference, or mediumship, do not concern us in the least. The fact that a man set out upon an inquiry with the hope of proving a given thesis might possibly vitiate the results, but would not in the least prove that the principle of the inquiry was logically wrong. Prof. Jastrow is at great pains to discover the relations between the methods

of the 'psychical researcher' and those of the 'true psychologist,' and he finds that although both travel for a considerable distance along the same road, they part company when the former, *e.g.*, in a Census of Hallucinations, lays stress upon those hallucinations which are "veridical". The position could only be defended on the assumption that the only proper point of view for psychology is one of extreme subjectivism, according to which the only objects to be considered are the psychological states of a given subject, and for which the problem as to the connexion between these objects and other objects which are not merely states of the given subject, is irrelevant or futile. On such a view, the consideration of 'veridical hallucinations' would be as unpsychological as that of the connexion between *my* sun and yours. Prof. Jastrow, however, does not seem to hold this view of the nature of psychology. If he did he could never speak of the interest which psychologists find in "other natural products of *psycho-physiological* action". And from this point of view it is hopelessly false to say that an hallucination is equally interesting to psychology whether it happens or not to be 'veridical' (in the sense in which Prof. Sidgwick's committee used the word). Once forsake the subjectivistic point of view, and the connexion between A's state *m* and B's state (identical or analogous in objective reference) *m'* is quite as significant whether A and B are both looking at the Sun, or B is experiencing the hallucination of A's wraith. In both cases we may set about to solve the problem as to the connexion; in so far as it has a meaning in the one case, it has a meaning in the other. Prof. Jastrow or any one else is indeed at liberty to reject the conclusions of the Census of Hallucinations, if he can show any valid reasons. But Prof. Jastrow has entirely failed to demonstrate that the inquiry was not a psychological one, in the sense in which he appears to use that term. It is amazing enough that in his anxious haste to set the public right at all costs, he should have repeated a number of old and exploded errors. Thus he might have spared us the trouble of reading once more the statement that the experiments of Hansen and Lehmann on involuntary whispering afford a scientific disproof of the conclusions based upon Prof. and Mrs. Sidgwick's experiments on thought-transference. It is long since Prof. Sidgwick conclusively disproved this alleged disproof, and long too since one of those very experimenters—Lehmann himself—admitted the correctness of Sidgwick's contentions.

In the same way it was a pure and simple *ignoratio elenchi* to repeat Parish's criticisms on the Census of Hallucinations, while leaving undiscussed Mrs. Sidgwick's refutation of them. He insists at some length upon the difficulties of such an investigation as that contained in the Census, enumerating a number of sources of error, and there is not one mentioned in the whole discussion but has been anticipated with admirable subtlety of analysis and some attempt at numerical estimation by Prof. Sidgwick and his collaborators.

The remaining essays in the book may be commended as well-informed popular expositions, and even in one case, as a real contribution to knowledge. The essay on "Dreams of the Blind" (an investigation, by the way, belonging to the province of abnormal psychology) will prove most valuable to the student of the types and development of mental imagery. "The mode in which a brain-centre will function depends largely upon its initial education, but, once this education completed (the critical period being from the fifth to the seventh year), the centre can maintain its function, though deprived of sense-stimulation."

Finally the "Study of involuntary movements," while it has the merit

of having been the first of a series of other similar studies by different investigators, calls for severe criticism on a number of points. The apparatus used is well-nigh hopelessly inaccurate; it entirely fails to record movements describing certain curves; it cannot register the variations of pressure of the fingers upon the plate; most important of all, it is impossible while using it to make any time-measurements of the least value. The author prints only a few typical results. We are not told how many subjects were operated with, from which subject each particular tracing was obtained, to what extent the procedure was "wissentlich" or "unwissentlich," what the individual differences of the subjects were. The question deserves to be reinvestigated with the help of some such apparatus as that described by Sommer in his *Psycho-pathologische Untersuchungsmethoden.*

F. N. H.

The Revival of Phrenology: The Mental Functions of the Brain. By Bernard Hollander, M.D. London, 1901.

We are told in the preface to this book that it "aims at clearing up the mystery of the fundamental psychical functions and their localisation in the brain. It is the first work on the subject since the dawn of modern scientific research." This quotation is but a sample of the many passages which show that Dr. Hollander entertains very exalted, and, in view of the contents of the volume it must be said, absurdly inflated notions of the aims and achievements of his book. The volume is presented as the result of fifteen years of work at the subject and yet it is not so much a book as a bundle of rough notes from which a book of some sort might have been constructed. It consists of a judicious mixture of extracts from medical journals of the kind which, like the reports of the police-courts, are always interesting reading; of copious quotations of the opinions of well-known personages from Queen Victoria downwards; of jibes thrown at those who by honest toil have proved certain cases of localisations of cerebral function, because in one or two cases some flighty phrenologist nearly a century ago made a wild and lucky guess at the truth (*e.g.* the case of the visual cortex, p. 303); last, but by no means least, pictures such as the opposed portraits of Cardinal Manning and a sensual pope, calculated to bring immediate conviction to all minds, save those protected by prejudice or a critical faculty. Throughout the book two doctrines, which should be rigidly distinguished, are hopelessly confused together, namely the doctrine of the localisation of cerebral functions on the one hand and on the other hand the doctrine which, assuming the truth of the former, asserts the possibility of detecting the relative degree of development of the functional areas of the brain by inspection of the external surface of the cranium. In the case of two 'faculties' Dr. Hollander brings forward a considerable mass of what he believes to be evidence of their localisation in the brain. He attempts to prove the localisation of 'fear' in the angular and supramarginal convolutions and the 'emotion of irascibility' in the middle part of the temporo-sphenoidal lobe. As evidence for the former localisation he has collected, and in part quotes, the reports of some 150 cases in which fear, melancholia or depression of spirits occurred in conjunction with evidence, direct or indirect, of injury to or of some abnormal state of the parietal lobe or the tissues in its neighbourhood. For he argues that melancholia is the expression or result of fear. If this assumption were granted, it would still be necessary to deny that the collection of cases affords any evidence in support of the localisation aimed at, and for the

following reasons. The only criterion for the inclusion of any case in the list is that there should be mentioned melancholy or fear and some evidence, direct or indirect of change in the parietal lobe; and in a very large proportion, in fact the very great majority of cases the area of the supramarginal and angular gyri which form about the postero-inferior third only of the lobe is not mentioned, while in very many cases the change is mentioned as affecting, not this, but some other part of the parietal area and often some other part of the cortex also. Now these 150 cases are collected from all times and countries, going back at least as far as the year 1825. During that period of time the number of reported cases of brain injury and disease must be enormous, and it is certain that by adopting the author's method and picking out all cases that might seem to support one's view, however remotely, it would be possible to make out a similar case for the localisation of any namable mental function in any part of the brain. It is a simple logical truth that the enumeration of cases of this sort, even if the selection of them were carried out much more rigidly than has been done by the author, cannot afford proof of localisation of function in this or that part. To obtain evidence of this sort by the collection of cases it is necessary first to collect a considerable number of cases of morbid change of some part of the brain regardless of the nature of the accompanying symptoms, and then to exhibit the proportion of the cases in which the faculty or form of mental process in question seems and does not seem affected in the way demanded by the suggested localisation. And further, it would be necessary to compare then this group of cases with a similar group of cases of similar lesions affecting some other part of the brain, for there may always be symptoms common to certain kinds of lesion whatever part of the brain they affect, *e.g.*, the general pressure symptoms caused by tumours. And in doing this it would be necessary to distinguish as far as possible those cases, such as inflammation, in which the lesion might be expected to produce exaggeration of function, from those, such as atrophy, which should exhibit loss of function. This last precaution is entirely neglected by the author, and the lack of this precaution, while it vitiates in some degree all his collection of evidence, appears most ludicrously in the series of cases quoted by him to prove localisation of the *libido sexualis* in the lateral lobes of the cerebellum. We find in his list cases of inflammation, of hypertrophy, of complete softening and of complete atrophy all alike associated with grossly increased sexual irritability; so that if we assume the cases to be correctly reported and quoted they, so far from favouring the author's suggested localisation, suffice absolutely to disprove it. The 'proof' of the localisation of the 'emotion of irascibility' is similar in character to the above described. There is nothing inherently absurd in Dr. Hollander's attempts at localisation. It is his illogical treatment of the material and the crudity of his psychological analysis that render his book of little value.

W. McD.

Studies in Social and Political Ethics. By David G. Ritchie, M.A., LL.D., Professor of Logic and Metaphysics in the University of St. Andrews. Sonnenschein. Pp. ix., 238. Price 4s. 6d.

To quote the author's own *caveat*, "the papers here collected together were written at considerable intervals of time and adapted to different hearers or readers; and the same subject is often approached from various starting points. What is said in one paper must be taken as

qualifying or supplementing what is said in another. Any one trained in philosophical studies who may look into this volume may, perhaps, have to be reminded that these essays and addresses, from the circumstances of their origin or first publication, are 'exoteric discourses'. It seems to me possible and profitable to discuss practical questions of political and social ethics on the basis of what may be called evolutionary utilitarianism, without raising, or at least without discussing, metaphysical questions, provided that one may take for granted that faith in the value and meaning of human society and human history which is implied in all serious political and social effort."

The point of view here indicated is made most explicit in the lecture on "The Ultimate Value of Social Effort"—an admirable example of the ethical temper and method of "humanism". Prof. Ritchie is never so instructive as when he is examining the crude and dogmatic application of biological formulæ to social problems—as for instance in the paper on "Social Evolution". The essay which is, however, most topical in interest is that on "War and Peace". It is rather too vague to be illuminating, and it can hardly be said to avoid altogether the errors of "abstract thinking" against which it is mainly directed. The "absorption" of smaller states by larger may be approved, it is suggested, in the name of "the higher civilisation," and upon the ground that "there is everywhere an inevitable conflict between inconsistent types of civilisation". But what about the effect of this process of "absorption" upon the "higher type" itself, to say nothing of the sinister possibilities of political jesuitism such a point of view "inevitably" suggests? It would appear that Prof. Ritchie's treatment of the issue is not altogether "detached"; it is certainly one-sided. If it does justice to certain elements of the question, it neglects others —of at least equal importance. The remaining essays do not call for special remark: it goes without saying that they are brightly and pleasantly written, that they are full of point and instruction, and that they are pervaded throughout by a sober and reasonable "faith in humanity". The concluding essay on "Free Will and Responsibility" is perhaps of more directly philosophical interest than the rest, and is a good example of Prof. Ritchie's gift for popularising philosophical ideas.

SIDNEY BALL.

The Human Nature Club: an Introduction to the Study of Mental Life. By E. THORNDIKE. New York: Longmans, Green & Co., 1901. Pp. vii., 235. Price $1.25.

The book records the conversations, arguments and discoveries of a little group of intimates who, tired of the "Browning class, the Greek Art class and the Church History class," and stirred up by a popular lecture, resolve to study the "real world of people". The discussions turn upon the influence of past experience, memory, attention, habit and character, mental training, heredity, etc.; and the Club, by singular good fortune, invariably reach the conclusions which are laid down in James's *Psychology*.

It is easy to find fault with the book. The dialogue, as the author owns with somewhat exasperating frankness, is "thoroughly fictitious," in all senses of the word. It has to be helped out by summaries and interpolations in the author's own name. The Club arrive at sane conclusions by the easiest and broadest of paths; and this is not exactly the truth about psychology in general. The constant appeal to James blunts the edge of the writer's pedagogical skill. Nevertheless, in the

hands of the readers for whom it is intended, the work will probably do good, and can hardly do harm. "If the book tells a little truth, and does not deceive readers into thinking that it tells more than a little," says the author, "it may serve a good purpose in waking people up to the possibility of a scientific study of human nature, and introducing them to some of the published results of such study". This is true, and makes it worth while to have brought the Club into existence.

Selections from Plato: with Introduction and Notes. By L. L. Forman, London: Macmillan & Co., 1900. Pp. lx., 510.

"The aim of the book. . . . is to offer an introduction, first, to Plato's language, with the constant aid of grammar and dictionary, second, to the noble figure of Socrates as presented in Plato's pages." The Introduction deals with the life of Socrates. The Selections fall into four groups: (1) Concerning Socrates—*Apology*, *Crito*, parts of *Symposium*, *Phædo*, *Laches*, *Theætetus* and *Republic;* (2) Socrates and the Sophists—parts of *Protagoras*, *Gorgias*, *Euthydemus*, *Theætetus*, *Menon;* (3) Plato and Socrates—selections from the first three and last six books of the *Republic;* and (4) Briefer Extracts from *Phædrus*, *Menexenus*, *Alcibiades*, *Protagoras*, *Republic*, *Sophistes*, *Phædo*, *Timæus*, *Theætetus*, *Laws*.

The work achieves its purpose very satisfactorily. The notes are well arranged, clear, and of the right intellectual level. The introduction is admirable in matter and charming in form.

Lectures on the Ethics of T. H. Green, Mr. Herbert Spencer and J. Martineau. By Henry Sidgwick, late Knightbridge Professor of Moral Philosophy in the University of Cambridge. Macmillan & Co.

Advance Notice.

This forthcoming volume consists of eight lectures on Prof. Green's *Prolegomena to Ethics*, ten on Mr. Herbert Spencer's *Principles of Ethics*, and four on Dr. Martineau's *Idiopsychological Ethics*. They were not prepared for publication by Prof. Sidgwick, but are from his lecture notes, and substantially as he delivered them. They are a valuable supplement to his hitherto published ethical works, containing a detailed examination of the ethical views of the most prominent exponents of so-called Transcendental (or Idealist) and Evolutional Ethics, which Prof. Sidgwick regarded as the principal rivals of ethical Utilitarianism in contemporary English thought. And Dr. Martineau is perhaps the only 'Intuitional' moralist whose writings have been influential in England in this generation.

The American Journal of Sociology, vol. vi. Chicago: The University of Chicago Press, 1901.

The American Journal of Sociology has now reached its sixth volume and continues to produce articles of considerable value on social phenomena more or less peculiar to the United States. In addition to these articles it contains useful contributions from European and American sociologists on the scope and methods of sociology and its relation to the other sciences. A considerable amount of space is devoted to reviews of books, and it issues from time to time a useful bibliography of sociological literature.

W. D. Morrison.

Des Principes Sociologiques de la Criminologie. Par RAOUL DE LA GRASSERIE. Paris: Giard et Brière, 1901. Pp. 442.

This work forms the twenty-sixth volume of the International Sociological Library, published under the editorship of M. René Worms. M. de la Grasserie accepts the principles of the Italian school of criminologists. That is to say, he believes that crime is a product either of hereditary disposition or of social circumstances, and that the proper way to deal with it is not by vindictive punishment but by removing or ameliorating the conditions out of which it springs. In so far as these points are concerned M. de la Grasserie frankly tells us that he has nothing new to say. In his opinion all that can be said about them has been said already. What he wishes to do in the present volume is to fill up some gaps, and to complete the body of doctrine which has been formulated in its essential lines by his predecessors. There are one or two important directions in which it requires completion or at least more detailed and exhaustive treatment. Criminal sociologists have been, in M. de la Grasserie's opinion, too exclusively occupied in answering the question, What are the best means of protecting society against the criminal? Is this object to be attained by elimination or by reformation, or by a combination of both methods, according to the circumstances of the case? Or are the methods of elimination and reformation of comparatively little value as compared with the effort to remove or mitigate the adverse social and individual conditions in society as a whole which tend to the production of crime? No doubt these are and must remain the most important questions in criminal sociology. But there are subsidiary issues of considerable weight, and M. de la Grasserie considers that some of them have been too much neglected. Take, for example, the question of punishment. Modern writers on crime of the sociological school contend that all punishment should, as the Germans say, be a *Zweckstrafe*—punishment for a social purpose and not *Vergeltungsstrafe*, or mere retaliatory punishment. The supreme end of punishment is social utility and not the satisfaction of revenge. M. de la Grasserie does not dissent from this proposition, but he points out that crime has an individual as well as a social aspect. Crimes as a rule are committed on individuals, and the individual who suffers at the hands of the criminal has a right to be considered as well as the society of which he is a member. If the individual is not legitimately considered in the treatment of criminals by the penal law there is a danger that he will take the law into his own hands, and that vendetta and lynch law will at times take the place of the law of the land. In order to obviate this danger a certain amount of satisfaction must be given to the victim of a criminal offence. This need not necessarily be satisfaction in the shape of pounds, shillings and pence. It may be only what M. de la Grasserie calls psychological satisfaction. He believes that the victim as well as society has certain claims upon the criminal, and he considers that these claims must to some extent be satisfied if penal law is to be entirely in harmony with the public conscience. In chapter v. M. de la Grasserie suggests certain methods of satisfying the victim. Some of them are plausible, but the great difficulty would be in putting them into practical operation. To this objection M. de la Grasserie would reply that it is his immediate purpose to assert and establish principles and to leave difficulties of practice to be overcome by specialists. Passing away from the subject of reparation to the injured there are other directions in which M. de la Grasserie considers that the teaching of criminologists ought to be

supplemented. He considers that more attention should be paid to the evolution of penal law and penal institutions, and he is of opinion that comparative legislation is of great value in showing us the geographical distribution of criminological ideas and practices. On all these matters M. de la Grasserie writes with much lucidity and judgment. His book, if not exactly profound or original, is illuminating, and deserves a place on the bookshelf of all those who are interested in this department of social study.

Le Crime et le Suicide Passionnels. Par Louis Proal. Paris: 1900. Félix Alcan. Pp. 683.

M. Proal is a French judge and is already favourably known to the public by his excellent books on Political Crime and Crime and Punishment. The object of the present volume is not to present a collection of crimes of passion in the form of a book. Its object is criminal psychology. M. Proal wishes to show us the temperament, the character, the mental calibre and characteristics of the man or woman who commits crime under the spell of passion. The passion with which M. Proal principally deals is the passion of love. As he very truly points out poets and novelists as a rule deal with the exquisite, the sentimental, the ideal side of love. But it has another side as well. It sometimes leads its victim to vengeance, to suicide, to crime. It has been a part of M. Proal's duty as procurator of the Republic and *juge d'instruction* to examine and interrogate persons charged with crimes of passion, to study their character, to go into the causes of their offences, to read the letters of suicides and the documents which criminals of passion draw up in their defence. His book is the work of a man who has studied his human documents at first hand, and it has all the interest and reality attaching to such a work. Love plays a great part in literature and life. It also plays a considerable part in the statistics of suicide and crime. While poets dwell on its charm and beauty, magistrates are compelled to consider its miseries, its despairs, its crimes. Here are some of the questions discussed by M. Proal, and as a rule discussed with great judgment, discrimination and psychological tact. Why is it that unrequited love sometimes makes a person so miserable that he puts an end to his life? Why is it that lovers who could easily live happily together prefer to die together? Why is it that lovers at times pass so rapidly from love to hate? Why is it that a sentiment so tender in itself should often become so cruel? Why does the jealous lover drive a knife into the heart which he adores? Why does this passion, so fitted to make heroes, so often make cowards and assassins? It is these and similar questions which M. Proal attempts to answer. In the course of his inquiry he covers a very wide field, and exhibits a comprehensive and intimate acquaintance with the literature of love in ancient and modern times. His estimate of the psychological value of much of this literature is generally sound and illuminating. It is M. Proal's experience that the literature of passion has a good deal to do with crimes of passion. A vast amount of this literature is pessimistic, neurotic, sensualistic and fatalist. Literature imitates crimes of passion, and crimes of passion are a reproduction of what is found in literature. It is M. Proal's opinion that the characters depicted and developed by great poets, dramatists and novelists are psychologically true to life. The cries of love, of anger, of vengeance uttered by the heroes and heroines of Corneille and Racine are not fictitious creations. They are the real

utterances of nature. "They are so true," says M. Proal, "that I have often heard them in the mouth of persons charged with crimes of passion." These facts have led him to draw several interesting comparisons between the criminals of fiction and the criminals of real life. He arrives at the conclusion as a result of such comparisons that the principle and distinguishing quality of genius is psychological truth. The volume is well worth reading as a study in morbid psychology.

Annales de l'institut International de Sociologie. Publiées sous la Direction de René Worms, Secrétaire-Général. Tome vi. Paris: Giard et Brière, 1900. Pp. 320.

This volume contains ten essays on sociological questions written by members and associates of the International Institute of Sociology. The first essay is by the eminent economist Prof. A. Loria. It is an interesting and instructive study of the relation between sociology and philology. M. Maxime Kovalewsky contributes a paper on the relations between Sociology and comparative law. Prof. Ferdinand Toennies in his essay deals with the fundamental conceptions of pure Sociology, and M. René Worms attempts to show how sociology regards the vexed question of the relations between the individual and the community. A paper of a different type is Baron Garofalo's on the Individualism of Nietzsche, while Dr. Groppali's subject is a review and criticism of contemporary American Sociology. M. Raoul de la Grasserie devotes a long article to the history of theocracy and the various forms which it has assumed. His practical conclusion is that the movement of modern thought is towards a separation of the civil and spiritual powers. Herr Jaffe's paper is of an economic character, dealing with the part played by the various forms of distributive agencies in the present economic system. The other papers are by M. Tenichef on Education, and by Dr. Puglia on Human Evolution. In addition to these papers, which vary considerably in merit, M. René Worms contributes an introduction in which he deals with the work of the Institute of Sociology during the year.

La Foule Criminelle. Essai de Psychologie Collective. Par Scipio Sighele. Deuxième édition. Paris: Félix Alcan, 1901. Pp. 300.

This is a new volume of Alcan's "Bibliothèque de Philosophie Contemporaine". It is a translation from the Italian of M. Sighele's well-known work on the criminal crowd. The second edition is in great part a new book. The author has availed himself in reproducing it of all the fresh material on collective psychology which has appeared in recent years. The first edition was almost entirely confined to an examination of the conditions which lead crowds to commit crimes. In the present edition M. Sighele goes outside this subject and deals with other manifestations of masses of men. In an interesting chapter on public opinion, M. Sighele discusses the difference between the crowd and the public. He comes to the conclusion that the crowd is a barbarous and atavistic collectivity, whilst the public is a modern and progressive collectivity. The form of the volume is not altogether satisfactory. It is made up partly of essays and partly of lectures, and there is not much organic connexion between its component parts. But in spite of this drawback M. Sighele's book contains many interesting and acute remarks on collective psychology.

Einleitung in die Philosophie. Von Wilhelm Wundt. Leipzig: Verlag von Wilhelm Engelmann. 1901. Pp. xviii., 466.

In this book the indefatigable author, who has already dealt exhaustively with almost every aspect of philosophic study, adds another to the somewhat numerous Introductions to Philosophy that have appeared in recent years. Books of this kind can hardly yet be described as superfluous, if indeed they will ever become so. Happily most of those that have hitherto appeared are sufficiently distinguished from one another by their general aim and character to preserve a freshness and individuality of their own among the many that are brought out; and Wundt's will probably not be the least interesting. Its chief characteristic, in comparison with others, is its intimate combination of careful historical study with the strenuous attempt to arrive at an analytical survey of the fundamental problems—a combination which is on the whole a happy one, though there may be some doubt as to the success with which it has been carried out in detail.

The book is divided into three parts: I. The Scope and Divisions of Philosophy; II. The Historical Development of Philosophy; III. The Leading Points of View in Philosophy.

In the first part Wundt begins by discussing the various definitions of Philosophy that have been proposed; and is led on, by the consideration of these, to notice the general relations of philosophy to the particular sciences and to religion. The general conclusion at which he arrives is that philosophy is to be regarded as the universal science, in contradistinction from the particular sciences—the science that seeks to combine the elements of knowledge contained in these special sciences into a single self-consistent whole, and to discover the fundamental principle involved in the methods and presuppositions upon which these special sciences proceed. He opposes this scientific conception of philosophy to the more practical view of it that is sometimes taken, as being normative in its character, and as having the doctrine of values as its essential problem. According to the latter view Philosophy would consist substantially of the three departments of Logic, Ethics, and Æsthetics, and would deal simply with the standards of value which these set up. It would thus be sharply marked off from the various positive sciences. But against this view it is contended by Wundt that any such standards of value must rest on certain ultimate grounds in the nature of things; and that the consideration of these ultimate grounds must be a more fundamental problem than the treatment of the standards themselves. The consideration of such grounds, moreover, would seem to be inseparable from the general problems of the nature of knowledge and reality. It seems best, therefore, to regard philosophy as being concerned with the fundamental presuppositions of Logic, Ethics, and Æsthetics, just as with those that underlie the special positive sciences.

These reflexions lead Wundt on to the consideration of the classification of the sciences; and after some discussion of the schemes suggested by Plato, Aristotle, Bacon, D'Alembert, Bentham, Ampère, Hegel, Comte, Spencer, and J. S. Mill, he proposes the following arrangement:—

1. Formal Sciences—consisting, it would appear, of the various branches of Pure Mathematics alone;

2. Real (or Material) Sciences—falling into the two groups, Sciences of Nature and Sciences of Mind or Spirit.

The Natural Sciences are then grouped as follows:—

(*a*) Phenomenological (Physics, Chemistry, Physiology);

(*b*) Genetic (Cosmology, Geology, Biology—in the sense of the study of organic evolution);

(*c*) Systematic (Mineralogy, Botany, Zoology, etc.).

The Sciences of Mind or Spirit fall into similar groups:—

(*a*) Phenomenological (Psychology);

(*b*) Genetic (History);

(*c*) Systematic (Law, Political Economy, etc.).

Philosophy itself is then divided up in a somewhat similar way as follows:—

(*a*) Genetic—the doctrine of Knowledge, which is subdivided into—

(*α*) Formal (Logic);

(*β*) Material (Epistemology).

Methodology seems to be regarded as the link that connects these two.

(*b*) Systematic—the doctrine of Principles, which is subdivided into

(*α*) General—Metaphysics;

(*β*) Special, falling into the further subdivisions—

(1) Philosophy of Nature (Cosmology, Biology, Anthropology);

(2) Philosophy of Spirit (Ethics—with Philosophy of Law, Æsthetics, Philosophy of Religion).

The Philosophy of History seems to be treated as a link connecting the Philosophy of Nature with the Philosophy of Spirit; while the History of Philosophy stands apart by itself.

Attempts to get a general survey of the field of human knowledge, when made by a writer who has a comprehensive grasp of many of its departments, can never be without a certain interest; but the arrangement here given seems rather too scholastic, and the present reviewer cannot pretend that he finds it very enlightening.

The second part of the book contains a sketch of the History of Philosophy from Thales to the present time. It need hardly be said that it is a good sketch, showing competent knowledge of the material. The only doubt is whether, for a work of this character, all the details here given are desirable. A discussion of the general tendencies of thought, with references to the recognised Histories of Philosophy for further particulars, might have been more helpful to the student.

The most interesting passage in this section of the work will probably be found in the general summing up with regard to recent history. Wundt holds that the two most remarkable developments of thought in the century that has just passed are to be found in Hegel's Philosophy of Spirit and in Positivism. "It is Hegel's merit to have for the first time set the sciences of mind or spirit over against the natural sciences as equally worthy of study. What chiefly prevented him from achieving his aim was his delusive notion of trying to bring the development of spirit, and indeed the development of things in general, into a definite dialectical scheme. Besides this, he was deficient in the right understanding of the natural sciences, and, partly as a consequence of this, had neither Psychology nor Epistemology. The lack of the former prevented him from having a true insight into the motives by which the activities of the mind are determined: the lack of the latter deprived him of the necessary critical power in dealing with his own constructions. But just as Hegel gave a one-sided attention to the sciences of spirit, so Positivism gave a one-sided attention to the natural sciences. In this way it sets out with a complete lack of appreciation of the content of the sciences that deal with human affairs, and even tries in its efforts after the construction of a 'Sociology,' to bring them within the domain of natural science. And thus Positivism also fails to arrive either at

a useful Psychology or at a tenable Epistemology. Psychology comes to be regarded either as a part of Physiology or as a mechanical theory of Association. Epistemology is either entirely lacking, or rests on a resuscitation of the old dogmatic empiricism. The inevitable result is that positivism sinks into a kind of dogmatism which rests on arbitrary presuppositions and which, equally with the Hegelian dialectic, substitutes a dead external schema for the living relations of things. The problem of scientific philosophy at the present time is to correct the deficiencies of these two most significant of modern points of view, by strenuous attention to the principles and demands of scientific thinking."

In the remaining part of the book Wundt seeks to give an account of the various points of view that have been taken up in the study of philosophy. These he arranges under the three headings—I. Epistemological Points of View; II. Metaphysical Points of View; III. Ethical Points of View. The Points of View dealt with under the first of these headings are Empiricism, Rationalism, and Criticism. Empiricism is subdivided into Naïve Empiricism (found chiefly in ancient speculation), Reflective Empiricism (such as that of Locke) and Pure Empiricism (developing from Berkeley, Condillac and Hume to such recent writers as Avenarius). Rationalism is subdivided into Apriorism (the Eleatics, Plato and Aristotle, etc.), Ontologism (the Cartesians), and Panlogism (Hegel). Criticism is subdivided into Negative Criticism or Scepticism and Positive Criticism or Criticism Proper. The Metaphysical Points of View are classed as Materialism, Idealism and Realism. Materialism may be Dualistic or Monistic. Idealism may be Objective (as with Plato and Leibniz), Subjective (as with Berkeley), or Transcendental (as with Fichte, Schelling, and Hegel). Realism may be Dualistic (as with Aristotle and Descartes) or Monistic (as with Herbart and Schopenhauer). Ethical Points of View, which are more slightly dealt with than the others, are classed as Heteronomous, Transcendent, and Immanent. In all this, as in the classification of the sciences, though there is much that is instructive and valuable in Wundt's treatment, he seems somewhat to confuse the issues by too great elaborateness of subdivision, and indeed to commit in a different way the same fault that he charges against Hegel and the Positivists—that of crushing out the life of speculative efforts in the attempt to force them into a scholastic schema.

On the whole I am afraid that most readers will close the book, in spite of its solidity of thought and wealth of material, with a feeling of disappointment. But no intelligent reader will close it without having learned a great deal from it.

J. S. Mackenzie.

Allgemeine Aesthetik. Von Dr. Phil. Jonas Cohn, Privat docenten an der Univ. Freiburg, i. B. Leipzig: Verlag von Wilhelm Engelmann, 1901.

The aim of the author is to give a general outline of æsthetic considered as a critical science, and thereby to emphasise the unity of all æsthetic experience, a fact too often neglected by writers on the subject. In the first two parts of the book, the especial characteristics of æsthetic experience, formal and material, are discussed: in the third, the relation of the sphere of beauty to the spheres of knowledge and of ethics respectively.

To proceed scientifically, Dr. Cohn starts from the æsthetic judgment, as a material lying ready to hand, whose existence is universally recog-

nised, and proceeds to investigate the particular kind of value which it predicates. To the distinctive characters of this value (Wert) he attaches a scientific terminology. The subject of the judgment itself is defined as "an Anschauung"—an intuitive apprehension. The characteristic qualities of its value are, first, that it is "intensiv," and secondly, that it possesses "Forderungscharakter". By the word "intensiv" as a quality of this value, Dr. Cohn denotes the fact that an æsthetic experience is an end enjoyed and estimated for its own sake: whereas, in regarding an object from a moral or intellectual point of view, the value we attach to it is 'consecutiv,' that is, depends on its relations to the wider whole of duty or knowledge. By its "Forderungscharakter" the æsthetic is distinguished from the merely pleasurable experience: in the first case we are conscious of an obligation to approve, which is not present in the second.

In the second part of his book Dr. Cohn discusses the concrete nature of æsthetic value. This may be summed up in the single phrase "the expression of an inward life"—an expression, however, which fulfils the formal conditions already laid down as characterising all æsthetic experience. In connexion with this conception, Dr. Cohn deals at great length with that most baffling of problems, the relation of form and content. He dismisses the theory by which the content, as something purely intellectual, is distinguished from the form as the sensible medium which conveys it. The artistic content is always 'anschaulich'—directly, not mediately apprehended in the form: apart from the form it has no existence of its own. For all form is at the same time expression: any change in the treatment of the subject changes the subject itself.

The necessary interdependence of form and content being granted, it is evident that the principles of formation, or construction, will at the same time act as principles of expression. By principles of formation are to be understood the formal laws of artistic representation, whose end is to simplify the æsthetic apprehension of the particular content. They demand in all cases completeness, clearness, distinctness, and unity of treatment. On the fact, then, that these conditions of formation are at the same time conditions of expression, Dr. Cohn bases his division of the various kinds of beauty into two main classes—pure and mixed beauty. Pure beauty is found wherever the content is adequately expressed without violation of the principles of form. This can evidently only be the case where the content, the life expressed, is itself simple and harmonious. The attempt to represent a life whose harmony is disturbed by the presence of mighty forces, must involve a straining of the principles of form. We thus pass to the realm of mixed beauty, where the form is adequate by its inadequacy—it expresses by failing to express. Under this head fall the sublime and the tragic, each being only capable of expression by a violation of one or other of the formal laws of expression. In the case of the sublime and the tragic, a power whose magnitude we cannot wholly grasp is suggested by a want of completeness or unity in the external representation.

Herr Cohn's classification has the undeniable merit of being based on an essential æsthetic principle, and the application of it in detail is clear and careful. In the third part of the volume the general significance of æsthetic is considered, and its relation to the spheres of intellect and of morals. The essence of the artist's activity is defined as communication —his creative impulse, as the desire to communicate. The communication of the artist, however, is distinguished from moral and intellectual communication in being its own end. Dr. Cohn rightly lays stress on the fact that while the artist's work is thus a communication, of which

he is the author, yet the work of art is to be enjoyed and understood, not as an expression of his personality, but for its impersonal qualities: we are not to seek, but to forget the author in his work—a truth not always recognised in modern criticism.

In the closing chapters of the book Dr. Cohn views æsthetic in its relation to truth and to morality. His main conclusion, that each of these different provinces has its own principles, which are only valid for it, cannot be disputed. Still it will perhaps be felt that he detaches art and æsthetic experience generally, too sharply from the actual facts and demands of human life. Beauty is after all a matter of individual experience: and the æsthetic value of a work of art for any individual must vary with the degree in which it coincides with his own convictions and aspirations. For only so is that full sympathy with the object possible, which Dr. Cohn himself lays down as a condition of true æsthetic enjoyment. Especially is it true of the moral tendency of a work of art, that it cannot possibly be a matter of indifference, æsthetically speaking. It is true that the hero of a tragedy need not be good; or that, if he is bad, he need not necessarily come to a bad end: but the whole teaching of the work in question must be a witness to rightness and fitness of what is good, or it cannot approve itself even æsthetically to the ideal, or even to the average spectator.

Dr. Cohn's treatment of his subject is in all cases highly suggestive, and based on an intimate knowledge of past and present æsthetic theory. It may fairly be said that he has fulfilled the desire with which he set out, and written a book which is useful not only for the æsthetician, but for critic and artist, and indeed for all who wish to clear up their ideas on æsthetic problems.

J. Shawcross.

Geschichte der Philosophie im Islam. Von T. J. de Boer. Stuttgart, 1901.

The author gives a sketch of the history of Arabic culture (theology, philology, science, and literature are all included in the word 'Philosophie') within a compass of 200 pages. He is a special student of the subject, and wrote in 1894 an article in the *Archiv für Geschichte der Philosophie* on "The Contradictions of Philosophy According to Al. Gazzali, and Their Solution by Ibn. Rošd". But partly because his space is limited, and partly because he tries to include so much, his work is rather one of dogmatical statement of the creeds of various Arabic philosophers, than of exegetical analysis of their thought. The book is good for reference, but not for reading. It seems too much of a text-book on a subject which cannot in the nature of things be the matter of a text-book. Aristotelians will, however, welcome the concise section (pp. 90-137), entitled "Die Neuplat Aristoteliker des Ostens," and the chapter (pp. 165-177) on "Averroes". The historian of the middle ages would also do well to read the book, if he wishes to be saved from such mistakes as calling Averroes the "translator of Aristotle from the Greek". But the general reader will get a better idea of the trend of Arabic philosophy, and its influence, from Renan's *Averroès et l'Averroïsme.*

C. B.

Wille und Erkenntnis. Philosophische Essays. Von R. Schellwien. Hamburg: A. Janssen, 1899. Pp. 122.

An attempt to equal justice to the claims of will and thought to be the essence of the Conscience. The thing in itself must be either totally unthinkable or it must immediately know itself. Kant adopted the former alternative; the author adopts the latter. He holds that we immediately know ourselves at once as willing and knowing, as Erkenntniswille, which brings its own objects into being, and in so doing knows. Schopenhauer is criticised for maintaining that we immediately know ourselves only as willing and not also as cognitive beings.

Prolegomena a una Morale Distinta Dalla Metafisica. Da Dr. V. Erminio Juvalta. Pavia, 1901. Pp. 82.

Substituting their English equivalents for the rather cumbrous technicalities of this author, we may say that Prof. Juvalta's object is to enforce the distinction between the moral standard and the moral motive, and to work out the consequences of this distinction. Before the dawn of ethical speculation the two notions are habitually confused, and the confusion long continues to haunt speculation. Right seems to define itself naturally as what we ought to do; and we ought to do it because it is right. In reality the standard is at first determined by the interest of the community, which in practice often means the interest of a single class. And as the feeling of moral obligation is called in to enforce the unwilling obedience of individuals whose wishes are not in accordance with the standard so determined obligation comes to be thought of as something intrinsically painful. Hence arises an antinomy the solution of which is sought in an appeal to metaphysics. But metaphysical assumptions merely give a false appearance of absolute value to that which by the nature of the case must be relative and temporary. And metaphysics can only be eliminated by establishing a truly universal standard of right, that is a rule of conduct which satisfies the conditions of stability for the whole community and the claims to happiness urged by each of its component members. In other words we must construct an ideal society. Prof. Juvalta accepts the method of Mr. Spencer with its distinction between Absolute and Relative Ethics, but censures his acceptance of individual liberty—which is merely the provisional postulate of modern industrialism—as the ideal standard of justice. The more detailed criticism of Mr. Spencer's ethics and the full presentation of the author's own theory are reserved for a forthcoming work.

A. W. B.

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VII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xi., No. 1. **E. Ritchie.** 'Notes on Spinoza's Conception of God.' ["What is meant by 'God,' 'substance,' *causa sui* is universal existence, or *being itself*. God is the 'is' of all things." But is not 'being' a vague abstraction? Not for Spinoza, whose deduction is from being as fact, not from being as idea. Hence the 'unity' of God, which excludes division within as well as addition from without. Hence also the nature of the 'attributes': which "are infinite expressions of the all-inclusive infinite existence". The infinity of the attributes (only two of which enter into and condition our experience) simply implies the illimitable reality of being: Spinoza asserts in this way the inexhaustibility of the universe of existence, the 'perfection' of God. Note further that God's essence is activity; the Eleatic thought is combined with the Aristotelian. Misunderstanding of this point is largely due to Spinoza's mathematical method. Finally, God as 'being absolutely infinite' is consciousness *per se*, eternal, all-embracing and self-sufficient.] **F. Thilly.** 'Soul Substance.' [Substance may mean (1) the logical *prius*, that which does not compel us to think of a bearer or support when we are thinking of it itself. Here we deal with a purely logical relation; nothing is predicated of the bearer as reality; we may use the conception of 'substance' without objection, whether in the physical or the mental sphere. (2) We may mean by substance "the relatively constant element or elements in our experience, without regarding these as separate, independent entities". Here we declare that the thought relation is a real relation, but we do not separate the substance from its accidents. The usage is unobjectionable. (3) We may make substance "exist apart from its accidents, as something that is actually the bearer of qualities, powers, events and occurrences"; and we often combine with this view the notion of absolute permanence. Here we enter upon metaphysics. "The validity of the notion of soul substance will depend entirely upon its ability to explain the facts, and the whole problem is coextensive with the problem of philosophy."] **J. H. Maccracken.** 'The Sources of Jonathan Edwards' Idealism.' [The thesis of the paper, worked out in detail, is that the *Clavis Universalis* of Arthur Collier was the work that first turned Edwards' thought towards idealism. The tract was published in London, 1713. "The whole attitude of Edwards towards idealism is that of Collier rather than of Berkeley. The resemblance to Malebranche and the difference from Malebranche are both explained, if we find the source of the resemblance in the transformed theory of Malebranche presented by Collier. The fact that Edwards read Collier in the light of Locke and Newton would explain any resemblance there may be between Edwards and Berkeley."] **W. P. Montague.** 'Professor Royce's Refutation of Realism.' [Royce classifies ontological systems by their attitudes towards a single epistemological problem, the question of the relation of the idea to its object. He then defines realism by a confusion of the *ratio cognoscendi* with the *ratio essendi*. "The independence of an object is not what makes it real, it is what makes us aware that it is real." Royce is followed through his consideration of relations and

independence, and through his application of the realistic theory to the dilemma of pluralism and monism. "Mistaking the experiential evidence of realism for realism itself," Royce "forces upon the realist the strange conclusion that such independence as is implied by and indicative of the numerical separateness of object and idea carries with it a total inability of these two to interact, or to correspond, or to be in any way related.] Summaries of Articles. Notices of New Books. Notes.

PSYCHOLOGICAL REVIEW. Vol. ix., No. 1. **G. S. Fullerton.** 'The World as Mechanism.' ["If the conception of mechanism seems to us absurd, it is because we imperfectly comprehend what that conception is, as it is gradually growing clearer to science. If we deny the existence of material causes, it is because we confound the notions of causality and activity, or erroneously assume that a cause can only be something occult and mysterious, which must be eschewed by science. If we repudiate natural necessity, it is because we fail to perceive that the word 'necessity' is an ambiguous one. If we insist that science cannot offer any explanation of the occurrences of the material world, it is because we give the word 'explanation' an unjustifiable meaning." These remarks are directed against Ward, Pearson and Mach. As for the reduction of the living body to a machine, we must remember that certain machines are apparently selective; that certain organisms, of a lower kind, are apparently machines; and that Descartes drew the line only at man. Moreover, the bringing of "things widely diverse under the same general concept does not mean that the differences which distinguish them are obliterated": the organism remains organism, as much after the mechanistic interpretation as before. The difficulty of 'minds' will be dealt with in a later paper.] **C. H. Judd.** 'Practice and Its Effects on the Perception of Illusions.' [The Müller-Lyer "illusion disappears after practice. It disappears, not by any process of judgment or any process of indirect correction. The line comes to look differently than it did at first." "A mere change in the length of lines, or even the more marked changes in obliquity of the added lines and in the position of the whole figure, were no hindrance to the transfer of the effects of practice" (against Thorndike and Woodworth). The author utilises his results for a genetic theory of perception in particular, and "for the general genetic study of mental life". Stress is laid upon the fact that introspection is inadequate to the gradual change of perception.] **F. C. French.** 'Mental Imagery of Students: a Summary of the Replies Given to Titchener's Questionary by 118 Juniors in Vassar College.' [All members of the class "are able to call up visual, auditory and tactile images. Only one or two in each case are lacking in either taste, smell, temperature or motor images. This almost universal capacity for all kinds of sense imagery" has two causes: (1) the subjects are young women; (2) a relatively large number of tests is offered for each class of images. Generalising, one might say that "the mind in most people is capable by effort of all kinds of sense imagery, although as a usual thing its content is limited to one or two special forms".] Discussion and Reports. **J. M. Baldwin.** 'Notes on Social Psychology and Other Things.' [Notes to 'Social and Ethical Interpretations'. The socionomic and the social; animal companies and human societies; the process of social organisation: imitation; selective thinking; the science of society.] **S. F. Maclennan.** 'The Image and the Idea.' [Imagery and reference, terms and relations, structure and function, cannot be divorced. Sensationalism and intellectualism, associationism and transcendentalism, are alike one-sided. "Meaning is the complete projected experience, consisting, from one point of view, of a series of imagery, from another of a dynamic transition from one image to another." "Ideation as

reference is embodied in determinate forms of activity, which in their initiation and discharge implicate the concrete imagery which furnishes the base for each discharge and illuminates its course."] Psychological Literature. New Books. Notes.

International Journal of Ethics. Vol. xii. No. 2. **Harald Höffding.** 'Philosophy and Life.' [Philosophy both consciously works out the problems of life, and also symbolises unconscious tendencies in life. The philosopher is confronted by an irrational incompatibility between the form and content of experience. It is the function of the philosophy of religion to harmonise our various *Weltanschauungen*.] **W. A. Watt.** 'The Morality of Private and International Action.' [Moral conceptions can in some degree be applied to the acts of states. The state is to be regarded as a moral organism, on the whole.] **J. H. Hyslop.** 'The Temperance Question.' [The drink-evil should be attacked by controlling the drinker, not by restricting the sale of drink. Habitual drunkards are best controlled by appointing guardians to receive their wages on G. W. Swan's system.] **Zona Vallance.** 'Women as Moral Beings.' [Unless intelligent women have more rights as against their husbands they may refuse the burdens of marriage. They should be put more on a financial and legal equality, and should be remunerated for the duties of motherhood.] **B. Bosanquet.** 'The Dark Ages and the Renaissance.' [A study of the intellectual history of Europe, showing that the seeds of the Renaissance may be traced back through the Dark Ages as far as the Christian Era.] **S. McC. Lindsay.** 'The Modern Workman and Corporate Control.' [An excellent account of the advantages and disadvantages experienced by the modern workman from the growth of the trust-system.] **J. Spens.** 'The Ethical Significance of Rossetti's Poetry.' [Rossetti deals with sensations and emotions, but regards them from a highly spiritual point of view.] Discussion. A further Rejoinder to Prof. Ritchie, by J. M. Robertson. Book Reviews.

Revue Philosophique. July, 1901. **Dr. E. de Cyon.** 'Les bases naturelles de la géométrie d'Euclide.' [Our conceptions of space are based on immediate perceptions of it which we acquire by means of the semi-circular canals. Investigations into flight of animals, etc., prove that principal definitions and axioms of Euclid are based on such sense-experience, while non-Euclidian geometries are the product of pure thought.] **F. Le Dantec.** (I.) 'La méthode déductive en biologie.' [The ultimate elements of cell-life escape our observation. We must study more complex biological organisms and draw inferences as to happenings of cell-life.] **Goblot.** 'La musique descriptive.' [An essay in musical psychology.] **Blum.** 'Le mouvement pédologique et pédagogique.' Analyses et comptes rendus. August, 1901. **Bouglé.** 'Le procès de la sociologie biologique.' [A reply to MM. Novicow and Espinas' objections to author's contention that biological conceptions are misleading when applied to sociological problems.] **Récéjac.** 'La philosophie de la grâce' (I.). [The order of Nature. Dualism between orders of 'Nature' and of 'Grace'. Miracles.] **F. Le Dantec.** 'La méthode déductive en biologie' (fin). [Deductive method applied to study of heredity.] Analyses et comptes rendus. Revue des périodiques étrangers. September, 1901. **Dr. Gustave Le Bon.** 'Les projets de réforme de l'enseignement.' [Serious indictment of methods in vogue at French Universities. They consist entirely of book-work and learning by rote.] **Récéjac.** 'La philosophie de la grâce' (fin). [The 'supernatural' and 'original'. Holiness. Springs of grace. Conflict between grace and liberty.] **F. Paulhan.** 'La suggestibilité d'après M. A. Binet.' Analyses et comptes rendus. Revue des périodiques

étrangers (*Psychological Review*). Correspondance. October, 1901. **H. Höffding.** 'La base psychologique des jugements logiques' (I.). [Logical reasoning gets its subject-matter either from intuitions or associations. The former are either sensations, perceptions or *re*-presentations. Relation of judgment to each of these. The work of judgment; its three forms.] **L. Bray.** 'Le Beau dans la Nature.' [An examination of objects in vegetable and animal worlds to which beauty commonly ascribed shows that beauty = distinction; distinction attracts attention of opposite sex and hence is closely bound up with conservation and reproduction of the species.] **J. J. van Biervliet.** 'L'Homme droit et l'homme gauche' (Recherche expérimentale). **G. Richard.** 'Le réalisme sociologique et le catholicisme social.' (Revue critique.) Correspondance. Analyses et comptes rendus. November, 1901. **G. Tarde.** 'La réalité sociale.' [Misleading to speak of a society as a 'social organism'. It is a *totality*, objective yet spiritual, because each of the component individuals finds the idea of the totality exteriorised in the forms of speech, habits of thought, institutions, etc., which are the work of thousands of generations and by which he feels himself constrained.] **M. Bernès.** 'Individu et Société.' **H. Höffding.** 'La base psychologique des jugements logiques' (II.). [Logical subject and predicate = psychological *terminus a quo* and *ad quem*. Predicate further determines a partially undetermined subject. We pass from cognition to re-cognition. Judgment and existence.] Notes et discussions. Analyses et comptes rendus. Revue des périodiques étrangers. December, 1901. **A. Fouillée.** 'Les jugements de Nietzsche sur Guyau, d'après des documents inédits' [*i.e.* Nietzsche's marginal notes on *l'Esquisse d'une morale sans obligation ni sanction*. The two writers agree that every healthy organism accumulates a surplus of power, but Guyau says this is spent *in the service of* others, Nietzsche, *at their expense*.] **F. Paulhan.** 'La simulation dans le caractère' (I.). [A study of psychical 'mimicry,' instance taken being that of an assumed insensibility.] **Palante.** 'Les Dogmatismes sociaux et la libération de l'individu.' [Author classifies 'Social dogmatisms' as *a priori* or *posteriori*. The former are 'transcendental' (Plato, Kant, Fichte), or 'immanent' (Hegel), while the latter attempt to base solidarity of race on (1) biological, or (2) economic considerations. He dismisses all in favour of individualism "posited as a tendency, not a dogma".] **G. Richard.** 'Travaux sociologiques sur le droit de punir.' **G. Belot.** 'L'Année sociologique.' (Revue critique.) Analyses et comptes rendus. Revue des périodiques étrangers (*American Journal of Psychology*). Correspondance. January, 1902. **H. Bergson.** 'L'effort intellectuel.' [Author discusses intellectual effort as it appears in (1) recollection; (2) intellection in general. In both a transition from a schema to an image or images takes place.] **G. Milhaud.** 'La Loi des quatre états.' [Conte's three-fold law gives no place to that deep-seated tendency of the human soul to find vent for the principle of immanence, for its inner life, which is revealing itself on all sides in the present day.] **Dr. G. Dumas.** 'L'État mental de St. Simon' (I.). Notes et Discussions. Analyses et comptes rendus. Revue des périodiques étrangers (*The Monist*). February, 1902. **V. Brochard.** 'La Morale Eclectique' [*i.e.*, morality in vogue at present day. Too loosely reasoned to be able to hold together for long.] **Evellin et Z.** 'L'Infini nouveau: le théorème de P. du Bois-Reymond.' **A. Godfernaux.** 'Sur la psychologie du mysticisme. Variétés. Revue générale (F. Picanet. Travaux d'ensemble sur la scolastique et le Néo-Thomisme.) Analyses et comptes rendus. Revue des périodiques étrangers. March, 1902. **E. de Roberty.** 'Qu'est-ce que la Philosophie?' [Not enough to say "it is a way of thinking the world"; science, art and practice all do this. The

way in which philosophy does so is at once synthetic and apodeictic.] **Dr. G. Dumas.** 'L'État mental de St. Simon' (II.). **A. Bauer.** 'Des méthodes applicables à l'étude des faits sociaux.' [Starting from the *different classes* which constitute society we must study (1) their characteristic tendencies; (2) the influences, internal and external, which tend to modify these.] **G. Richard.** 'Sociologie et science politique d'après les travaux récents.' Analyses et comptes rendus. Revue des périodiques étrangers (MIND). Correspondance. April, 1902. **L. Dauriac.** 'Les problèmes philosophiques et leur solution dans l'histoire d'après les principes du néo-criticisme.' [A critical discussion of Ch. Renouvier's works.] **G. Dunan.** 'La perception des corps' (I.). [Space is not a unity and hence given potentially in every externalised sensation, but a multiple, consisting of indivisible points. It is perceived by sight, not touch.] **Dr. G. Dumas.** 'L'État mental de St. Simon' (fin). **G. Richard.** 'Sociologie et Science politique' (II.). (Revue générale.) Analyses et comptes rendus. Revue des périodiques étrangers.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 9e année. No. 4. Juillet, 1901. **G. Milhaud.** 'L'idée d'ordre chez Aug. Comte.' [Comte's views were largely caused by his love of order. His relative valuation of historical epochs is in proportion to their orderliness—to the degree in which all the members of a given society held the same opinions. His 'theological' and 'metaphysical' stages have no exact historical counterparts; he speaks as if they had, because he likes to conceive things as forming orderly groups. His 'positive' stage is valued by him mainly because he thinks people cannot differ so much in opinion, when their attention is confined to facts of experience as when they are imagining metaphysical and theological entities. He includes the laws of nature among facts chiefly because he cannot endure the idea of a world wanting this orderly element. His view of the special sciences shows his liking for 'hierarchical' order, (1) in that he holds the difference between the more concrete and the more abstract sciences, on which their logical order depends, to be real and ultimate; (2) in that he makes the value of the abstract sciences proportionate to the light they throw on the most concrete, sociology. Finally his conception of progress is limited by his views (1) that, since it is orderly, we cannot change its direction, (2) that its goal, being merely 'social consensus,' is very nearly attained.] **E. Le Roy.** 'Sur quelques objections adressées à la nouvelle philosophie.' [Concludes article begun in last number. III. By telling us what matter *is*, will show why, in spite of the 'contingence' of its laws, science is practically successful. Matter (*a*) as idealists say, consists of 'images'; (*b*) as common sense (realism) says, persists even when not perceived. This 'antinomy' is capable of the following clear and consistent solution: (*a*) is true of 'actual,' (*b*) of 'pure' 'matter'. 'Pure matter' is the 'potentiality' of which 'actual matter' is the 'realisation,' and since the latter is 'a tendency to repetition,' the former is 'a capacity for habits'. Both pure spirit and pure matter are unreal and symbolic; 'matter' denotes the continuum between them, and is 'the only concrete reality': yet, according as you choose to 'move' over this continuum towards the one extreme or the other, the one towards which you move becomes more, the other proportionately less, true. *Thus* matter is seen to 'resolve itself' into mind. *Consequently* to prefer the doctrine 'Only mind is real' to the doctrine 'Only matter is real' may be a duty, but cannot be a necessity: yet 'from the standpoint of metaphysical speculation' the latter is self-contradictory. *Consequently* it is our duty to believe the former *and* (which is the same thing) to destroy matter; but matter is a necessary means to the performance of this duty, and hence spiritual-

ism does not involve a 'radical denial of matter'. To sum up:—Matter is '*de iure*' an 'instrument of progress,' '*de facto*' 'a restriction of our liberty': the success of science proves that we can do what we ought, namely make it '*de facto*' what it already is '*de iure*,' and the reason why we can is that spirit created matter in its own 'obscure' image.] **L. Brunschvieg.** 'La philosophie nouvelle et l'intellectualisme.' [Agrees with M. Le Roy on points which 'properly understood, would be essential,' but must defend the rights of 'clear thought' in answer to his challenge. I. The New Philosophy assumes that 'thought' can only consist of analytic reasoning and mere observation; and since neither of these can give us knowledge of reality, it takes refuge in 'action'. But, in fact, Intellectualism, especially since Kant, believes in 'the *synthetic* activity of thought'; and, just through ignoring this function of thought, M. Le Roy falls into Scepticism, Mysticism and self-contradiction, since reality, being, on his view, 'transcendent,' contains *both* pure matter *and* pure spirit, and is consequently 'discontinuous'. Thus II. M. Le Roy's 'living' of matter means *both* 'identifying oneself with it' *and* 'unifying' it, which are really incompatible, since the latter involves 'intelligence'; and III. his view, that science wholly consists in establishing a convenient language, neglects the two facts, (*a*) that it must be constantly verified by an appeal to facts; (*b*) that though its 'symbols' and the *terms* of its 'formulæ' may be arbitrarily changed, the *relations* expressed by the latter must remain the same. Finally IV. in making the emotions of 'invention' the *sole* criterion of truth, M. Le Roy forgets that these are equally felt by him whose supposed discoveries are mistakes: Intellectualism recognises that 'the characteristic property of mind' is to 'prescribe a direction to itself,' namely 'the liberty of *reason*,' 'rational *necessity*'; M. Le Roy is no better than a materialist, when he makes mind essentially 'transcendent' and 'contingent'.] **P. Landormy.** 'Remarques sur la philosophie nouvelle et sur ses rapports avec l'intellectualisme.' [M. Le Roy fails to distinguish that Intellectualism, while not denying that 'obscure thought' *de facto* precedes 'clear,' maintains only that both 'obscure' and 'clear' '*depend*' *de iure* on 'thought itself': it holds that everything is 'intelligible,' not that we already understand everything. The 'new philosophers' hold so fast to the 'liberty' of mind, that they think it may choose arbitrarily 'not to be what it is,' *i.e.*, to reject the law that 'its object is identical with itself,' a law, which 'by a *free* decree, it makes into the *necessary* form of its existence'. They do not see that 'action' presupposes both matter and spirit: the Intellectualist agrees that it is the true reality, but he means by this that 'the intelligible and the sensible' 'are only distinct for our imperfect consciousness'.] Étude Critique. Supplément.

Revue Néo-Scolastique. No. 29. **D. Nys** ('La définition de la masse') calls attention to the frequent employment in our days of the word mass. The investigation of mass belongs, properly speaking, to mechanics. But the tendency at the present day is to give a mechanical interpretation to nature, and to reduce, in the last analysis, everything which is to the two factors, mass and motion. D. Nys maintains that the discussion of mass has its place in metaphysics as well as in the physical sciences, and that mass, regarded from a metaphysical point of view, may be defined as the dimensive quantity of a body, or, in other words, that it is by its quantity that body fulfils the functions of mass and possesses the properties that are ascribed to this mechanical factor. **J. Halleux** ('L'hypothèse évolutionniste en morale': suite) examines the views of Mr. Herbert Spencer on the relation between evolution and morality as set forth in his first article on the subject. He discusses Mr.

Spencer's theories on conduct, the evolution of conduct, the distinction between moral and immoral conduct, and the different ways of judging of conduct. He evidently wishes to be very fair to Mr. Spencer, and where he finds agreement possible is glad to agree with him. When he dissents from Mr. Spencer's views, and on all the larger issues this is invariably the case, he states his reasons for dissent. **A. Thiéry** ('Le Tonal de la Parole': suite) continues his studies on the musical character of the speaking voice. His present article, though not so extremely technical as his first article on the subject, is, nevertheless, technical enough to make it advisable that a critic who is not a musician should abstain from expressing any opinion on its value. The last article of the number ('Pensées d'un évêque sur le juste salaire') summarises from an article in the *Collationes Brugenses* the views of the Bishop of Bruges on a fair wage. The Bishop contends that in the normal state of society and industry the wage paid should be sufficient to secure the complete subsistence of the workman, and under this head of complete subsistence he includes whatever may be necessary in order that a workman may fulfil his obligations as head of a family. If it should become impossible for the more numerous class to procure subsistence by means of work, it is the duty of the public authorities to inquire into the causes of this and to provide a remedy.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xxvii., Heft 3. **H. Ebbinghaus** und **J. A. Barth.** 'Arthur König.' [Necrology, with portrait.] **C. Stumpf.** 'Ueber das Erkennen von Intervallen und Accorden bei sehr kurzer Dauer.' [Report of two experimental series, prompted by the work of M. Meyer 'Ueber Tonverschmelzung' and R. Schulze 'Ueber Klanganalyse'. Criticism of the technique of Schulze's experiments: his stimulus-times are probably illusory, and his tone-intensities almost certainly unequal. (1) Determination of the interval formed by two simultaneous tones (bottle tones). Description of apparatus; regulation of time of stimulation. (*a*) The simple tone is hardly ever confused with an interval. (*b*) The octave is most frequently taken for a simple tone; the other intervals do not show any very clear uniformity in this regard, though the more consonant intervals, on the whole, have the advantage. (*c*) The judgments are, in general remarkably accurate. As regards relative ease of cognition, the octave holds the first place for all observers: the series is otherwise somewhat irregular, though (individual differences apart) those intervals are most easily recognised which have the most pronounced harmonic character. (*d*) Confusions obtain, in the great majority of cases, between neighbouring intervals, and are far more frequent for narrow than for wide intervals. (2) Determination of chord tones. (*a*) The more tones given, the more are heard. (*b*) The more tones given, the more, proportionately, are not heard. (*c*) The deepest tone is very rarely passed over: for the rest, the one of the two observers missed even-numbered, the other odd-numbered tones more easily. The result is due either to chance or to individual differences of experience and habit. (*d*) The dissonant chords given were nearly always rightly heard. The record ends with an interesting case of analytic inability on the part of a nervously disposed observer.] **H. B. Thompson** und **K. Sakijewa.** 'Ueber die Flächenempfindung in der Haut.' [Study of the effect of varying pressure upon cutaneous discrimination of size. (1) If the surfaces are applied to the skin with the same pressure, a change of pressure between the limits of 20 and 250 gr. has but a small influence upon the sensible discrimination of their magnitude. (2) Our discriminative capacity for cutaneous size is approximately the same at all parts of the body not practised in touch.

(3) Judgment of difference of size depends upon many secondary criteria: pressure, tension, localisation by the underlying bones, etc. The authors seem not to have known of Major's work.] **K. Marbe.** 'Bemerkung.' [Reply to a criticism by Wiersma.] Literaturbericht. Bd. xxvii., Heft 4. **T. Lipps.** 'Zur Theorie der Melodie.' [Detailed critique of M. Meyer's recently published 'Contributions to a Psychological Theory of Music,' and restatement of the author's own theory. We notice two points. (1) An interesting section deals with "aesthetische Abweichungen von Normalformen," in connexion with the overestimation of octave, fifth and major third, and underestimation of the minor third, found by Stumpf and Meyer. Lipps works out an explanation along the lines followed in his well-known work upon optical illusions. (2) The "Bild der Melodie aus den Tönen der diatonischen Leiter" is drawn as follows. "The melody oscillates, according as its tonica is more or less definitely introduced, about the position of equilibrium given in this tonica. It oscillates, more especially, between fifth and fourth. By reason of the opposition of these two secondary tonicas and their rhythmical systems, it settles down (einmündet) finally and stably into this position of equilibrium. The fourth has, in this process, a fourfold significance (the fourth not only complicates the melody, but brings into it the strongest opposition to the tonica; its dissonance makes the natural movement from $b\flat$ and d to the tonic c both more natural, more intrinsically necessary, and also more definite in direction, more exclusively a movement upon c; and this same dissonance with $b\flat$ or d empowers it to bring about a final and valid conclusion). To this we must add the twofold nature of the fourth tone of the scale, *i.e.*, its capacity to act first as natural seventh of the fifth and then as fourth, and so to lead flowingly from the fifth to the tonica."] **W. A. Nagel.** 'Stereoskopie und Tiefenwahrnehmung im Dämmerungsehen.' [Repetition and variation of Helmholtz' experiment prove that the rods, as well as the cones, are capable of stereoscopic vision. Daylight vision gives a noticeable displacement of the middle vertical at $\pm$ 3 mm., twilight vision at $\pm$ 10-12 mm.] **W. A. Nagel.** 'Ueber die Wirkung des Santonins auf den Farbensinn, insbesondere den dichromatischen Farbensinn.' [The author is a deuteranope ('green blind'). He sums up his santonin experiments as follows. "The fading-out of the long-wave half of the spectrum and the correlated violet (blue) vision of dark surfaces (found also during the stage of yellow vision) depends not upon a phenomenon of disability or abrogation, but upon a state of stimulation of the visual organ": there is no phenomenon of disability at any stage of the poisoning. Filehne's hypothesis of a sensitising effect of santonin upon the violet-sensitive substance is not proven; at what point of the organism the drug operates is still an open question.] **W. A. Nagel.** 'Zwei optische Täuschungen, nach Beobachtungen von Prof. Danilewsky mitgetheilt.' [(1) Extension of Thompson's 'rinsing movement' illusion to a disc seen in indirect vision; (2) wavy appearance of tuning-fork tines seen through a radial slit of a rotating disc. A simple explanation is offered in both instances.] Literaturbericht. Bd. xxvii., Heft 5 und 6. **T. Ziehen.** 'Erkenntnisstheoretische Auseinandersetzungen.' [This is the first of a series of papers in which Ziehen will compare the results of his own 'Psychophysiologische Erkenntnisstheorie' (1898) with other, old and new systems. It discusses the epistemology of Avenarius (the 'Kritik der reinen Erfahrung,' the 'Menschliche Weltbegriff' and the articles on the 'Begriff des Gegenstandes der Psychologie'). Ziehen presupposes the reader's knowledge both of his and of Avenarius' works. For this reason alone, apart from the mass of detailed criti-

cism which it contains, the paper cannot well be summarised. We note that, for Ziehen, "der erkenntnisstheoretische Fundamentalbestand ist ausschliesslich der, dass Empfindungs- und Vorstellungsreihen gegeben sind". He concludes that Avenarius has rendered two imperishable services to epistemology: the "Inventaraufnahme der menschlichen Aussagen," and the "Bekämpfung der Introjection". His positive attempt to lay the foundations of epistemological science is, however, unsuccessful. "Schon den erkenntnisstheoretischen Fundamentalbestand hat er nicht klar und auch thatsächlich nicht richtig wiedergegeben."] **W. Uhthoff.** 'Ein weiterer Beitrag zur angeborenen totalen Farbenblindheit.' [Description of three new cases. (1) In two of these, pathological changes were noted in the neighbourhood of the fovea centralis. Uhthoff thinks that accurate ophthalmoscopic examination would reveal such changes more often than is currently supposed. (2) In two cases, again, central scotomata were demonstrable: absolute in the one, relative at least in the other. (3) In all three cases, peripheral acuity of vision decreased continuously with degree of eccentricity. (4) In one case—a single exception to the rule—adaptation to dark proceeded no more quickly than for the normal eye. (5) The visibility of Röntgen rays was, in one case, well established. This point, however, requires further investigation.] **E. Storch.** 'Ueber die Wahrnehmung musikalischer Tonverhältnisse.' ["All relations in perception and thought, *i.e.*, all relations which objects bear to one another, are nothing else than the mental representation of our muscular activity." This, the central thought of the author's 'Muskelfunction und Bewusstsein,' is here applied to relations obtaining among objects of perception, which play no part in thought, but yet are wholly determinate and unequivocal: the relations of musical tones. Musical relations are to be regarded as "psychische Bewerthung der durch die Kehlkopfbewegungen erzeugten cerebralen Veränderungen," are referable to "die bei jeder Tonwahrnehmung anklingenden motorischen Erinnerungsbilder des Kehlkopfes". The conception of a 'phonetic space' is worked out in detail, and the author arrives at a set of 'physiological' interval ratios, differing from those both of the pure and of the tempered scale.] **A. Borschke** und **L. Hescheles.** 'Ueber Bewegungsnachbilder.' [Study of movement after-images by an ingenious apparatus, based upon that of Exner. (1) Within limits, the velocity of the after-image is directly proportional to that of the stimulus; (2) increases with the number of stimuli in the time-unit; (3) other things equal, increases with the clearness of the stimuli; and (4) increases with the duration of observation. (5) With an observation-time of 30 sec., under the conditions of the experiment, the after-image lasts for 15 sec.] **R. Du Bois Reymond.** 'Zur Lehre von der subjectiven Projection.' [In order to form an idea of the visual world of animals whose eyes are more laterally placed than our own, the author constructed 'animal spectacles' of black cardboard and mirrors. The instrument failed of its primary object, since the mirror pictures were projected in the direction of the natural axis of regard. Two experiments, however, binocular and monocular, are described, which are of importance for an understanding of the principle of projection of sense-impressions.] Besprechungen. [R. Burckhardt on J. Soury's 'Le système nerveux central'; F. Kiesow on H. Oehrwall's 'Modalitäts und Qualitätsbegriffe in der Sinnesphysiologie'.] Literaturbericht.

KANTSTUDIEN. Bd. vi., Heft 2 und 3. **W. Kabitz.** 'Studien zur Entwicklungsgeschichte der Fichteschen Wissenschaftslehre aus der Kantischen Philosophie.' [The present paper only deals with Fichte's views previous to the composition of the Wissenschaftslehre (winter of 1793-94). H.

Kabitz' object is to show how Fichte's philosophical views and personal character, as exhibited before he read Kant, influenced his understanding of Kant and led to his subsequent differences from him; but he fails to present clearly either what he takes to be Fichte's points of difference from Kant or the evidence on which his view is based. He adds an Appendix of hitherto unpublished MSS. writings, only one of which seems to contribute any new evidence relevant to his object, showing that in 1785 Fichte was a convinced Determinist; but many of them have considerable biographical interest. (1) Before Fichte read Kant (August, 1790) he was (*a*) a Determinist (*b*) resolved to adopt a life of action and reform, rather than one of study, sharing Rousseau's depreciation of purely intellectual culture. There is no evidence that he had read Spinoza; his Determinism may have been due to Crusius, and in other respects his views seem to have been in harmony with Leibniz. (2) H. Kabitz gives his view of Kant's 'real objects' in his three Critiques: in which view much is doubtful, nothing new, all irrelevant. Fichte had no 'real taste' for Kant, till he passed from the first to the second Critique, which led him to accept Free Will and reject Hedonism. H. Kabitz says that Fichte was not so much interested in Kant's 'positive' results, *i.e.*, the establishment of Mathematics and Natural Science, as in the 'negative,' under which he seems to include both the impossibility of Metaphysics and the 'practical' proof of Freedom. (3) Maintains that in 1790-93 Fichte increased his differences from Kant in direction of demanding a single supreme principle for all philosophy: he nowhere does so, but Reinhold did, and H. Kabitz argues (inconclusively) that Fichte shows Reinhold's influence. Only in a review of 1793 does Fichte distinctly state that Practical Reason is 'the unconditioned' on which Theoretical Reason depends. Meanwhile the evidence only shows that Fichte was much exercised with the relation of Freedom to Natural Necessity, a point on which he finds Kant 'obscure'.] **F. Marschner.** 'Kant's Bedeutung für die Musik-Aesthetik der Gegenwart' (Schluss). [The former article dealt with those points in Kant's Æsthetics which support 'formalist' theories of Music. The present one has three parts. (1) and (2) are supposed to show Kant's influence upon theories which put the essence of Music in its 'content'. They describe briefly, but with a bewildering mass of detail, theories resembling Kant's in one or more points. (1) includes Spencer, Emerson and F. von Hausegger, who share with Kant the startling view that Music is a means of expressing emotions. (2) includes Schopenhauer, Wagner, Nietsche, R. Fuchs, A. Seidl and F. von Feldegg, who resemble Kant in relating Music to a supersensible reality and to the distinction between 'sense' and 'intellect,' and in maintaining it to be either 'sublime' or 'beautiful' or both. The author here criticises: There is a 'fallacy' in Fuchs' conclusion that rhythm must mean will, because no intellectual power could 'upset the intellectual truth that $2 \times 3 = 6$,' whereas, in rhythm, 2×3 (=two bars of three beats each) are not equal to 6; 'the sublime is the contemplation of magnitude engaged in self-defence'; Bach's music is not only 'intellectually' but also 'musically' sublime; and, historically, music has been both sublime and beautiful. Finally (3) tells us that Kant's conception of synthesis has not yet been sufficiently used in the theory of Music: H. Riemann attempted this use; Fechner suggested it; and the author here sketches it for Harmony, Rhythm and Melody.] **A. Vannérus.** 'Der Kantianismus in Schweden.' [I. A bibliography of 'Kant-literature' in Sweden. II. A short account of Kant's relation to Swedish philosophy. He was first noticed in 1786, when 'Lockianism dominated the Universities,' and from 1794-98 the battle between his admirers and those of Locke and 'common sense'

was at the hottest. From him is derived 'the national Swedish philosophy' of C. J. Boström (fl. *circ.* 1830-40), a 'rational' Idealism, *i.e.*, 'in Swedish terminology,' one which holds that 'the true actuality' is superior not only to space but also to time and change: H. Vannérus deplores that this Idealism *par excellence* has had no exponent in Germany! 'Boströmianism,' still dominant in Sweden, accepts in the main Kant's view of 'given actuality,' but believes it can determine 'the true substance,' which is an 'absolute divine Reason,' and thus rejects Kant's restriction to 'formalism' in Metaphysics, as it does also in Ethics, though accepting his anti-hedonism.] **P. Natorp.** 'Zur Frage der logischen Methode.' [Mainly an account of E. Husserl's 'Prolegomena zur reinen Logik,' which maintain that the laws of Logic do not state how we actually do think, nor even, at bottom, how we ought to think: although, like mathematical propositions, they can be 'expressed as' practical maxims, no psychological or 'normative' reference enters into their 'content'. Husserl exposes in detail the absurdities of the opposite view, now prevalent, which persists in confusing truths, under the name of 'content' of psychical states or acts, with these states or acts themselves: guilty of such 'Psychologism' are Mill, Sigwart, Erdmann, Heymans, Wundt, Riehl, Lipps, Cornelius; and of a similar fallacy Mach and Avenarius. Natorp agrees with Husserl in all this, but urges (1) that 'Kant and his school' (*e.g.*, Cohen) are not guilty of Psychologism: the psychological meaning of Kant's words 'Understanding,' 'Reason,' etc., is not used by him to solve logical problems, and Husserl himself uses psychological *words, e.g.*, 'insight,' 'reasonable,' '*a priori*'; (2) that Husserl himself is not clear about the relation (*a*) of his truths or Platonic 'Ideas' to the psychological 'experiences' ('insights'), in which he says they are 'realised' (*b*) of 'formal' to 'material' or of logical objectivity to 'Gegenständlichkeit'. Natorp suggests that both (*a*) and (*b*) are logical relations (of the same kind?): he says that Kant's Transcendental Logic treats of them, and that he has himself developed that treatment.] **F. Krueger.** 'Eine neue Sozialphilosophie auf Kantischer Basis.' [Criticises in detail three books by L. Woltmann: 'System des moralischen Bewusstseins,' 'Die Darwinsche Theorie und der Sozialismus,' 'Der Historische Materialismus.' These works are supposed to exemplify a tendency, which has existed for the last ten years, to apply the principles of German Idealism, and particularly of Kant, to Social Philosophy; but it is impossible to discover any thread of connexion between most of the opinions detailed, or in what sense they are 'based' on Kant. Author and reviewer both seem to regard Kant's principle that 'humanity is never to be treated merely as a means' (sense not defined) as the ultimate rule of conduct, and to consider that the course of history must be explained 'teleologically' (sense not defined): further that 'Darwin's theory' is not inconsistent with 'Socialism' (sense not defined), and that Marx's 'historical Materialism' neglects the influence of 'spiritual' factors upon the course of history.] Recensionen, Selbst-anzeigen, Bibliographische Notizen, etc.

Zeitschrift für Philosophie und Philosophische Kritik. Bd. cxx., Heft 1. **Johannes Rehmke.** 'Zum Lehrbegriff des Wirkens.' [To act means to be the condition of a change in another individual being. Every action in the world requires for its possibility the existence of at least two individuals; and in the world of things nothing acts on another thing without being reacted on by it.] **Friedrich Jodl.** 'Goethe und Kant.' [Goethe was greatly interested in Kant and studied his principal treatises with close attention; but their minds were so differently constituted as to preclude any real agreement.] **Jul. Bergmann.** 'Ueber den Begriff der Quantität.' [The first part

of an inquiry into the conception of quantity carried on with the aid of symbolical reasoning, and addressed only to mathematical readers.] **J. Lilienfeld.** 'Versuch einer strengen Fassung des Begriffes der Mathematischen Wahrscheinlichkeit.' [In estimating the probability of any specified occurrence it is not enough to assume the conditions under which alone it can occur: we have also to estimate the probability of the occurrence of those conditions. In estimating, *e.g.*, the chances of my throwing double sixes we have to reckon with the chances that the dice are not numbered, that they are not symmetrical, that they do not fall on a smooth horizontal surface, that they are not thrown at all, etc. The object of the writer is, therefore, to provide a formula covering all the possibilities in any particular case.] **E. Schwendler.** 'Die Lehre von der Beseeltheit der Atome bei Lotze.' [Lotze at first put forward a theory of the world as composed of multitudinous animated atoms existing and acting side by side with their creator. He afterwards came to look on the world more as the manifestation under various forms of a single absolute existence; and the question arises how far this view was compatible in his mind with the theory of animated atoms. The solution is reserved for a future article.] Recensionen, etc.

Vierteljahrsschrift für Wissenschaftliche Philosophie und Sociologie. Jahrg. xxvi. Heft. 2. **E. Goldbeck.** 'Das Problem des Weltstoffes bei Galilei.' [Galileo is the first to show by cogent evidence that the substance of heavenly bodies is like in nature to that of terrestrial bodies, and so to finally overthrow the essential principle of the Aristotelian Cosmology. He attacks the Aristotelian conception of change; he shows that heavenly bodies are subject to change; he lays stress on the demonstrable affinity between the earth and the moon. Yet he did not push his assertions beyond the evidence on which they rested, which applied mainly to the planets. The sun and other self-luminous stars are still regarded as having a different nature. But this is no reason why they should not be studied and described by the ordinary scientific methods applicable to other matter.] **A. Vierkandt.** 'Die Selbsterhaltung der religiosen Systeme.' [Vierkandt names as grounds of the self-maintenance of the religious systems: 1. Imposture. 2. False statistic, *i.e.*, attending only to cases which make in favour of a belief to the neglect of those which make against it. 3. Judgment is adjusted to results; *e.g.*, it often happens that gods are only created by men when they have given proofs of their efficiency. 4. Unverifiable statements or impracticable demands are put forward. 5. The effects of suggestion are important. 6. Also those of fear. 7. Torture and divine judgments, as in the various kinds of ordeal. 8. Dreams and ecstasies. Vierkandt does not discuss how far the self-maintenance of a religion may depend on its truth, though he admits that this factor becomes of increasing importance as civilisation advances.]

Philosophisches Jahrbuch. Bd. xv., Heft 1. **Haas.** 'Eine neue psychologische (psychophysische) Theorie.' [The writer criticises Münsterberg's theory of action, that 'there is no experience which is not grounded upon some motor impulse. That it agrees with anatomical science proves nothing in its favour; other hypotheses also agree. It is a theory of purely mechanical action, and neither psychological nor psychophysical.] **Rolfe.** 'Neue Untersuchung über die platonischen Ideen.' [The author concludes his series of articles by pointing out that Plato's ideas may be supposed to exist in God, and to be identical with God; that he himself understood them as things eternal and independent of God is not proved with any degree of certainty.] **Isenkrahe.** 'Der

Begriff der Zeit.' [In this, the first of two articles, Aristotle's definition of time, 'Numerus motus per prius et posterius,' is shown to be a tautology, and St. Thomas is blamed for following the Philosopher too closely. The idea of creation has given us that of duration which is not time, and Scholastics have understood time in a way that Aristotle could not conceive.] **Willems.** 'Die obersten Seins- und Denkgesetze nach Aristoteles und dem hl. Thomas.' [In this article it is pointed out that the principle of sufficient reason, on which that of causality depends, and that the principle of excluded middle are both merely particular ways of expressing the principle of identity.] **Niestroj.** 'Ueber die Willensfreiheit nach Leibniz.' [This is the first of two articles. Leibniz, denying the possibility of a state of absolute indifference of the will, says that it always acts according to its inclination, but denies that it acts by necessity, unless moral necessity. This is simply the destruction of free-will.] **Jacobi.** 'Der altägyptische Göttermythus,' etc. [This short paper is devoted to tracing certain likenesses between the Egyptian myths of the Gods and the Ionian philosophy on the one hand and the old German legends (Baldur, Loki, etc.) on the other.]

Rivista Filosofica. Anno iv., vol. v., Fasc. i., January-February, 1902. **B. Varisco.** 'La cosa in sè.' [Gives the substance of a recent German work by Wyneken interpreting the 'thing in itself' on the lines of Leibniz or rather of Bruno as a plurality of animated monads.] **C. Cantoni.** 'Studi Kantiani.' [Deals with the question of synthetic propositions *a priori*. Kant's sharp separation between the inner and outer cannot be maintained. The recognition of certain truths as universal and necessary is a gradual growth.] **G. Cesca.** 'Il Monismo di Ernesto Haeckel.' [Concluded from the previous number. Haeckel commits the mistake of attributing an objective and absolute value to various partial, provisional and subjective points of view. His philosophy leads to pessimism and nihilism.] **G. Zuccante.** 'Intorno alle fonti della Dottrina di Socrate.' [Xenophon should be read in the light of Plato, who enables us to complete the fragmentary indications of a higher Socratic doctrine furnished by the *Memorabilia*.] Rassegna Bibliografica, etc. Fasc. ii. March-April, 1902. **F. Momigliano.** 'I sentimenti e la teoria intellettualistica della sensibilità.' [The tendency of modern psychology, especially since Schopenhauer, has been to part off with increasing distinctness the emotional from the intellectual side of mind, and also from the sensuous perceptions.] **R. Mondolfo.** 'Spazio e tempo nella psicologia di Condillac.' [Condillac's treatment of space is vague and confused, oscillating between nativism and the denial of its objective reality. But he does not doubt the existence of time.] **G. Gentile.** 'L'unità della scuola secondaria e la libertà degli studi.' [The proposal to let each pupil at a secondary school choose a course of studies for himself arises from a mistaken idea of liberty. Human beings are only made free by the emancipation of the spirit, and that is only effected by a course of studies embracing language, history, science and philosophy.] **G. Buonamici.** 'Di alcuni fenomeni psicofisiologici.' [Certain phenomena observed in dreams may be explained by the assumption of a more than three-dimensional space.] **V. Laureani.** 'Se Dante Alighieri sia stato indeterminista o determinista.' [Dante professes in terms his belief in free-will. But in the school to which he belonged this merely meant liberty to be determined by reason. And there are passages in his great poem irreconcilable with the doctrine of pure arbitrariness.] **A. Faggi.** 'Sulla catarsi aristotelica nel dramma.' [Defends the view that Aristotle's 'Catharsis' implies a homœopathic purification of pity and terror.] Rassegna Bibliografica, etc.

VIII.—NOTES AND CORRESPONDENCE.

THE LATE PROFESSOR ADAMSON.

Prof. Adamson was born in 1852, in Edinburgh. His father was a solicitor and his mother the daughter of Mr. Mathew Buist, factor to Lord Haddington. She was left a widow when Robert was three years old, with six children and comparatively small means. But she had great force of character and intellectual vigour, and, as is still not unusual amongst the Scots, was ready for all sacrifices in order to secure a good education for her children. She not only guided their studies, but shared them.

Robert was an extraordinarily clever child—"decidedly the most talented pupil I have ever had under my charge," said one of his Headmasters—and his career in school was marked by a constant succession of bursaries and prizes.

He entered the University of Edinburgh, a small boy fourteen years of age, and graduated with First Class Honours in Mental Philosophy when he was eighteen, after having won a place amongst the prizemen in every department of the Faculty of Arts. He then won the Tyndall-Bruce Scholarship, the Hamilton Fellowship, the Ferguson Scholarship and the Shaw Fellowship—the two latter being open for competition to the Students of all the Scottish Universities.

After the close of his unique career at the University of Edinburgh he went to Heidelberg, and there began that acquaintance with German literature and philosophy which afterwards became so intimate and comprehensive. From Heidelberg he returned to Edinburgh as Assistant first to Prof. Calderwood and afterwards to Prof. Campbell Fraser. About this time he was also engaged on the staff of the *Encyclopædia Britannica*, and, having the run of the Advocates' Library—the best in Scotland—he indulged freely his taste for omnivorous reading, and spent what he used to regard as, from his point of view, the most fruitful years of his life.

In 1876, when he was twenty-four years of age, he was elected to succeed Prof. Stanley Jevons in the Chair of Logic and Philosophy at Owens College, Manchester. After seventeen years of admirable usefulness in all that concerns a Professor in a growing College he moved to Aberdeen; and from the Chair of Logic in Aberdeen he was, after a two years' tenure, elected to the Professorship of Logic at Glasgow, which he occupied till his death on the 5th of February of this year.

He had, in 1881, married Margaret, the daughter of Mr. David Duncan, a Manchester merchant, known for his literary and philosophical tastes and much interested in religion: a sufferer also, in a way, for his theological views, for he was ejected for heresy from the Society of Friends. Dr. Adamson's domestic life was in every sense fortunate and happy. Father and mother shared the same tastes, sought the same high ends,

and set the same example before their children of steady industry and constant devotion to the best things that life has to offer.

Dr. Adamson's duties as a teacher of philosophy for twenty-eight years and, still more especially, the care and labour he spent on the practical affairs of the Colleges with which he was connected, made systematic production on a large scale impossible. The loss to British Philosophy will be deplored even by his colleagues, who best knew the value of his services to higher education ; for he was generous and far-sighted in his educational ends, and most persevering and skilful in employing means to attain them.

The writings he has left consist of Articles, many of which appeared in the *Encyclopædia Britannica*, and of two comparatively small volumes, one on Kant and the other on Fichte. At the time of his death he was engaged upon a *History of Psychology*, and had also undertaken for the Messrs. Macmillan & Co. a work on *Kant and the Modern Naturalists*— for both of which he was, in my opinion, equipped better than any other philosophic scholar in the English-speaking world.

He did not write out his lectures, nor always make use of even the briefest notes. But he had gradually formed the habit of speaking slowly, and he had such a mastery over his materials and over the order and arrangement of his own ideas that I believe the devotion of his students will make it possible to recover this most suggestive part of his thinking.

I am not inclined to attempt to form an estimate of the value and significance of his published writings. Every genuine student of philosophy will do this for himself. Dr. Adamson wrote nothing on second-hand information. He exhausted not only the author whose views he summarised, but the literature that had grown around him. This characteristic trait appears in a somewhat plain spoken criticism of Dr. Mc Cosh's *Scottish Philosophy*, written by Mr. Adamson when he was very young, and in which he made it all too plain to the exponents of the philosophy of Common Sense that the critic had a much fuller and more accurate knowledge of the field than the author. The same thoroughly scholarly quality characterised all his articles—on Roger and Francis Bacon, on Butler, Hume, Berkeley, on Kant, Fichte, Schelling, etc.; and his long article on Logic in the *Encyclopædia Britannica* is without a rival in English for conciseness of statement and erudition.

But his learning had not inundated and swamped his mind. It was alert, keen, incisive; and, whether in his writings or in his discussion of College affairs, he was the most dispassionate and impersonal critic I ever knew. Without in the least dulling the edge of his logic, or compromising his own views, he stated his author's doctrine as if it were his own—with uncompromising clearness, with sure instinct for the greater issues, and with a scientific objectivity which, had he lived, could have made him the greatest historian of philosophy in our language.

Of his own attitude towards the more fundamental issues in philosophy I should like to speak with much reserve, pending, at least, the publication of lectures. And even in his Lectures, I understand that his method was consistently historical and critical, and that he at no time systematically developed a doctrine of his own. Nor did personal discussion, for which he was always ready, reveal his full mind. By necessity of mental disposition he assumed a critical attitude towards a philosophical theory ; not from caprice, or any shallow fondness for contradiction, but because he made at once for those ultimate issues on which only the ignorant can be dogmatic. He had, I think, too little tolerance for half-lights. That which a mind of a more constructive bent might entertain as a hypothesis, recognising it as such, he would either set aside as of no value

or leave it to his opponent to develop positively. He was not a Sceptic in the lower sense of the term, but he demanded in philosophical speculation the utmost severity of logical method; and he was qualified beyond any of his contemporaries to compel caution, and to preclude satisfaction with anything short of scientific precision and, if possible, demonstration. Philosophy was to him not only the most difficult but the severest of all the sciences. He jealously watched the intrusion of the imagination, had a fundamental distrust of metaphor, and he would as soon leave room for the dogmatism of tradition, or 'faith,' or 'immediate certainty' in Mathematics as he would in Metaphysics. He did not entertain extravagant hopes in philosophy and recoiled from the intellectual enthusiasm of the German Idealists; but he was still further removed from any kind of misology. He used to call himself as regards some questions a Critical Positivist, and in general he was not confident of man's power to deal with ultimate principles. But he did not indulge a desire for any substitute for, or complement to, human reason, and he had no sympathy with the Will-to-believe attitude of mind. Early in life he had sat down to the game of thought and he demanded always that it should be played strictly.

I believe that his confidence in metaphysical construction was less in his later than in his earlier years; and he had come to look for any real advance in knowledge to the special sciences. In this restricted sense he was moving towards Empiricism: not, however, that he could retract what he said, for instance, in his article on Hume, "So far as metaphysics is concerned, Hume has given the final word of the empirical school. . . . So far as we can see, the only systems of thought which have endeavoured, or are endeavouring, to take up anew the work of philosophy, are, on the one hand, the Kantian with its extensive developments, and, on the other, that of scientific Naturalism, which latter, though weak in its metaphysics, is yet penetrated with a truly philosophic spirit." He was an empiricist on the higher plane of science as Hume was an empiricist on the plane of common sense. And if we adopt, for the moment, the Kantian distinction between reason and understanding, I may say that he recoiled from the constructive use of the former.

But I would hesitate to call him either a Kantian or Neo-Kantian. Having 'gone back to Kant' he realised clearly the necessity of going forward from Kant. So that, in the spirit of Kant's idealistic successors, he rejected the division of the objects of thought into phenomena and noumena. He considered that up to a certain extent man knew facts *as they are*. He repudiated the distinction between 'Appearance' and 'Reality'; for, in a sense, all was Appearance and all was Reality, the former being the manifestation of the latter in human Experience. On the other hand he did not identify truth and existence. He had little sympathy with the modern reduction of reality to 'experience': less than he had with the earlier identification of reality with 'thought'. 'Experience' seemed to him to have no advantage over the earlier term —it was simply more indefinite.

It was from this point of view that he would occasionally call himself a Realist rather than an Idealist. But I never saw him yield to the temptation of endeavouring to express in any single conception his view of the nature of the real; although he was ready to recognise that a philosophy which stopped short of such a characterisation and sought to rest in any dualism or pluralism failed in its one mission. In the last resort he was thus consistently critical, and hesitated to assume any positive attitude, for which, as he held, human knowledge was, at least as yet, not ripe.

On the other hand, I must accentuate the fact that his criticisms of the various schools of philosophy were consistently advanced from the Idealistic, and one might almost say from the Hegelian, point of view. For instance, he rejected, with Hegel, the opposition between the form and the matter of thought, between facts and principles, between things and their relations. Judgment, or rather, Reasoning, was the unit of thought, and its elements were distinguishable only by abstraction ; and as all reasoning involves both principles and their application to (or in) facts, it was at once deductive and inductive, and speculation was at once rational and empirical. But he dissented strongly from Hegel's logical method and rejected the dialectical movement as a whole, so far as it is regarded as either *a priori* in its movement or ontological in its content. 'Truth' to him was not the name of any *thing*, and constituted no realm of intellectual apprehension which could be identified with or opposed to existence. Truth was simply the way in which experience was organised by the thinking mind. So regarded, the ordinary antithesis between 'essential reality,' or scientific knowledge, and the world of phenomena or facts disappeared. The essential reality was only the generalised apprehension of that concrete reality which is called phenomenal. The exposition of the character of this apprehension could be fruitfully sought (as in the case of any other fact) by a particular science, namely, psychology. It is a fact which exists in time and may be called subjective, but, he strongly insisted, the act or process of apprehension could not be separated and considered apart from the content apprehended, any more than the content which gives definiteness to the act of apprehension can be separated and regarded as an existent either trans-subjective or intra-subjective. And from this point of view he disagreed both with the Berkeleyan and the Naturalist doctrines. Qualitative differences cannot be explained by being referred to the mind or subject. They are as real as the conditions to which physical science seeks to reduce them. From *no* general principles, such as self-consciousness (abstractly conceived), can we extract, without appeal to experience, the consequences which make up the detail of reality. Hence the view that we can deduce particular truths from the inevitable assumption that reality is intelligible he met with a denial : nothing can be deduced either as to the details, or as to the kind of intelligibility which the details would reveal. It is in this way, I think, that his main differences from the Idealists and his own Empiricism is to be understood.

Bearing upon the same fundamental position was his view of the Self as a resultant and not an original determining unity. He objected to Kant's method of explaining experience by the application of a fully equipped mind to what comes from without. And he believed that there is no way of reconciling this view of a self gradually realised, with the idealist principle of self-consciousness as the key to all problems, or with the assumption of the potential presence of the higher in the lower, or of all in every part. In other words, the introduction of the Absolute under any form or disguise seemed to him always to be a mere relegation of difficulties which we find in the relative, into a region of mysticism. The Occasionalists exhibited precisely the same procedure in a more naïve form. In this respect modern thought had made no real advance ; and he looked for no advance by this method.

A clear and decisive illustration of his general distrust of the constructive use of Universals, as well as of his own peculiar Empiricism which at once essentially depends upon and resiles from Idealism is to be found in an Essay on "Moral Theory and Practice," recently published in a volume called *Ethical Democracy*, edited by Mr. Stanton Coit

(Grant Richard & Co.). This essay is the more interesting as it is the only published expression of his views which Dr. Adamson had given for some years.

This sketch which I have attempted to give of Prof. Adamson's attitude towards some of the more pressing problems of modern philosophy must be considered as quite tentative. Indeed, it is my belief that he himself had not sought in a deliberate way to connect his views into a positive general theory. But even if it be true that his final word was critical and negative, all who, like myself, were privileged to know his mastery over human learning, the exceeding acuteness and subtlety and scholarly severity of his thought and his splendid intellectual honesty, will await with great interest the fuller expression of his mind which his *Remains* will bring, under the editorial care of Prof. Sorley.

HENRY JONES.

CORRESPONDENCE.

TO THE EDITOR OF "MIND".

SIR,

May I ask you in this way to correct a misinterpretation put upon a footnote of mine, in vol. i., p. 11, of my last edition of *Berkeley's Works*, in the interesting review with which you honoured the book in the April number of MIND.

Your reviewer charges me with misconceiving Berkeley's abbreviations —"M. T.," "M. V.," "M. S.,"—contained in the text, and lays stress upon this charge. I should indeed have been guilty, if, as he supposes, the note in question was intended to tell readers that Berkeley meant "M. T." to stand for "matter tangible," "M. V." for "matter visible," and "M. S." for "matter sensible". But I took for granted that intelligent persons would understand, without explanation, that "M. T." was an abbreviation for the Latin term *minimum tangibile*, "M. V." for *minimum visibile*, and "M. S." for *minimum sensibile*.

The purpose of the footnote (not explicitly conveyed by me, it seems) was to remind readers that under Berkeley's new conception of the reality of matter (*esse* is *percipi*), which dominates the *Commonplace Book*, those *minima* are the objective units or equivalents of tangible, visible, and sensible matter; in other words, that the tangible world is the aggregate of significant *minima tangibilia*, the visible world the aggregate of significant *minima visibilia*, and the whole sensible world the aggregate of significant *minima sensibilia*—actual reality without at least this *minimum* of sensuous realisation being impossible.

In thus connecting those *minima* with Berkeley's "New Principle," I assuredly had no design to disparage the many important mathematical, physiological, and psychological problems to which your reviewer seems to refer—subordinate although they were with Berkeley to the "Principle" with which his mind was at the time burdened, and under less duly proportioned relations than in his later and more matured writings, *i.e.*, *De Motu*, "Alciphron" (Dial. IV. and VII.), and "Siris," in which Active Causation and its necessary spirituality dominates.

The paradoxical expression of the "New Principle" in Berkeley's juvenile treatises, published in an unmetaphysical age, in part explains why for a century after his death he was hardly taken seriously by philosophers, while he was ridiculed popularly; although he is now re-

cognised as the English thinker who has led the way towards the philosophy of theism, as the ultimate interpretation of the universe of passive things and active persons that is truly human, practical, and conservative of our concrete experience.

I am, etc.,

A. CAMPBELL FRASER.

May, 1902.

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JAMES (Prof. William), 95 Irving Street, Cambridge, Mass., U.S.A., has joined the Association.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE DEFINITION OF WILL.

By F. H. Bradley.

No. I.

The object of this article, and of two which follow it, is to explain and defend a definition of will, a definition which has been already laid down by me on various occasions.[1] The only proper explanation and defence of it would be a psychological treatment of the whole practical side of mind. I must content myself here with endeavouring in an unsystematic manner to advocate a view which, the more I see it criticised, strikes me more as the one view which is tenable. But the will of which I speak, is the will which is known and experienced as such. It is not something in a world beyond and behind the contents of our experience, something to be reached only by an inference valid or vicious. In other words we are to remain here within the limits of empirical psychology.[2]

A volition is 'the self-realisation of an idea with which the self is identified,' and in psychology there is in the end no will except in the sense of volition. We may speak of a permanent or standing will for a certain end, and may talk as if it existed there where at the moment no actual volition

[1] Mind, N.S., Nos. 41 and 43. *Cf.* No. 40 and O.S., No. 49.

[2] *Cf.* Mind, N.S., No. 33. The above statement does not mean that a volition may not be continued beyond the limits of what we experience. See below.

is present. In the same way we are said to have a permanent belief, or again a permanent attention, where for the moment we are not supposed to be actually attending.[1] But though a 'standing will' may be used with a legitimate meaning, there is in the proper sense no actual will except in volitions. Will therefore is action outward or internal, but on the other hand not every action is really will. You cannot even say that an action must be will in all cases where in some sense I impute it, or should impute it, to myself. But, wherever an action has the character laid down in our definition, I should impute to myself that act as a volition. Language and experience bear, I believe, an overwhelming testimony to this result, while upon the other side, apart from lax expressions which do not claim to be more than lax, I am unable to find more than misunderstanding and error. If in these articles I can remove some more or less serious mistakes, the doctrine which I advocate will, I hope, recommend itself to the reader.

A volition, I have said, is the self-realisation of an idea with which the self is identified, and a volition is a whole in which we may go on to find the following aspects. There is (1) existence, (2) the idea of a change,[2] and (3) the actual change of the existence by the idea to (4) the idea's content. And (5) in this change the self feels itself realised. The self is altered to something which before the change it actually was not, something which it felt to be its own proper being and existence. Up to what point however the actual realisation of self must be felt, and again how far the self, beside thus feeling, must also perceive itself and so be self-conscious of itself as an object, are questions which will have to be discussed in their own place.

It is difficult in a series of articles to make a beginning except from some assumption. I think it best at present to assume provisionally the existence of what is called 'ideo-motor action,' and to try to show that volition falls under this head. I shall therefore take for granted here the tendency of an idea to realise itself, and any question as to the existence and nature of this tendency must be deferred to another article. Let us then for the moment agree that ideo-motor action in general is a fact, and from this let us go

[1] Mind, N.S., No. 41, p. 26. The meaning of 'a standing will' is a point to be discussed in a later article.

[2] Or we may prefer to say 'the idea of something different to what exists'. The precise content of this idea is a difficult question which will have to be discussed at length hereafter.

on to consider in detail the aspects of volition which we have mentioned.

It may be convenient to take first the aspect of existence. This calls, I think, here for but little remark, and any metaphysical discussion of its difficulties would be out of place. It is, we may say, the aspect of reality as opposed to anything that is merely ideal. It is the temporal series of events, external or inward only, when that is taken as an actual series; or again it is that which is now present to me, together with any actual prolongation which is continuous with and one with my present. How far the future, as well as the past, can be regarded in any sense as existing, I am unable here to discuss. Existence may be spatial also, and, as spatial, it will begin from my 'here' and will contain whatever is continuous and one with that datum. But I cannot myself agree that existence must always be spatial, unless I may add that it need not always be spatial directly. And there is no occasion, I think, at present for any further remark. The sense in which existence comes as a not-self in opposition to a self, as well as a reality over against an idea, will be dealt with hereafter.

Existence then is that actual series of events which is either (*a*) now and here, or is (*b*) continuous with my here and now. In volition (we must next proceed to note) this existence must be altered, and, further, the alteration must start directly from the existing 'now'. The change must begin on and from this 'present,' and this present must be taken in its own character and unconditionally. But, while emphasising this point, we must remember not to push emphasis into error. Volition certainly must begin from and on the 'this now,' but volition as certainly is not confined within these limits. And it is wrong to deny that I can really will something to happen after an hour or after my death. I shall return to this error but at present need insist only on the truth that, wherever volition ends, it must begin at once by an alteration of my present existence.

The reader may remember that this doctrine has been denied. It has, for instance, been objected that will does not always aim at an alteration of the present, for its end, we are told, may be a mere continuance and so an absence of change. But a continuance of the present in a certain character is, I must urge, if really willed, a real will for alteration. The present is taken here as naturally and of itself about to pass into a different character, and hence, if I will that it remain the same, I must will it to change from itself. And if this conclusion at first sight seems

paradoxical, I think that on reflexion the paradox may vanish.[1]

In volition there must be an alteration of existence and of existence as such. The change, which comes in, must not merely be something which in some indirect way belongs to existence, and qualifies that so as to leave it, so far, unchanged as existing. On the contrary the change must directly qualify the existence itself in such a way that, even as existing, it suffers that change. The alteration in other words must not be merely ideal. This is a distinction which within my present limits I cannot fully discuss, but a failure to grasp it would leave the reader at the mercy of error. Let us suppose for instance that what I have willed is to think and know this or that, the result of my volition will here have two sides which we must not confuse. The object has been qualified ideally, and this, again, is an event which has happened in me. My existence has, as existence, been changed by my will, but the existence of the object itself, on the other hand, has not been altered at all. It has become qualified not in fact but, as we say, ideally; while the actual change which has taken place belongs, we say, only to me. It is impossible to ask here what is the ultimate truth with regard to this distinction, but the distinction itself must be observed in psychology. If by your volition you have, for instance, produced truth and knowledge in yourself, you may by a legitimate abstraction neglect the aspect of its appearance in you, and so take the truth merely as being such or such in itself. But if, while still maintaining this abstraction, you attributed the resulting truth to your will—you would have fallen into a very serious confusion and mistake. At least for psychology the will to know cannot alter the real object known, and it cannot, in other words, make truth. Your will to know alters your

[1] Lotze, *Med. Psych.*, p. 300, gives the instance of a martyr whose will is directed on actual pain. But the martyr's will, I reply, has for its object the maintenance of a certain attitude with regard to the pain. He wills that the pain shall not move him, and this means that it shall not take the course which it naturally would take of itself. His real end is therefore to alter existence, to change it so that it will follow a different course. The willed maintenance of an attitude, in short we may say, is a perpetual willed alteration of existence. We may notice here another doubt which perhaps may be raised. Will is not always for something to come, it may be said, for I can will, however unsuccessfully, to alter my past. But, I reply, the fact that the change, when made, would here lie behind me, is really irrelevant. From the point of view of the act itself the change is future, and the act starts from the present state of things and alters that. I shall consider later how far the fact of Resolve can be taken as an objection to the doctrine of the text.

actual existence, and with that there comes a changed appearance of the object in you, but the object itself is not thereby changed. The truth in brief has two aspects (I do not ask how they are connected), and it is only one of these aspects which can be produced by your will. The ideal qualification of the object has been a real change, but it has not, at least for psychology, altered the object as existing.[1]

From this I will go on to lay stress on another important point. Not only in volition must the existence be altered, but it must be altered to that character which was possessed by the idea. And not only must the existence suffer a change to this prescribed result, but the result must also be produced by the foregoing idea. The idea must itself alter the existence to its own nature, or in other words the idea must itself carry itself out into the changed existence. And, if all this does not happen, there is really no will, but at most a more or less explicable counterfeit and illusion. This point is so evident that I think it useless to enlarge further on it here, and will pass on to warn the reader against a dangerous misunderstanding. In insisting that the result in volition must come from the idea, I do not mean to assert that the idea must be the whole and the sole cause. This would be a doctrine which in my judgment could not possibly be sustained, and in short would involve a very serious mistake. I cannot here enter into the general subject of cause and effect, but for our present purpose I may perhaps express my meaning as follows. The idea is certainly not that whole complex cause which goes before and issues in the effect, but the idea is a positive and necessary element within that complex whole. It is not a mere accompaniment or a mere *sine qua non*, however inseparable or even necessary, but it enters directly into the causal sequence so as to make a difference by which the effect is produced. I think that this justifies us in maintaining that the alteration is due to the idea, and without so much as this I would submit that there can be no real will.[2]

[1] *Cf.* here MIND, N.S., No. 33, p. 6, and No. 41.

[2] A machine might be such that, say, its whistling might be the *sine qua non* of its work, since both in fact are effects from one and the same cause. If the machine took the whistling to be the cause of the work, that would be clearly an illusion, and if the idea in volition were a mere *sine qua non*, will would also be illusory. It may be urged on the other side that if the idea is but one element in the whole cause, we cannot say properly that the effect is produced by the idea. An objection of this kind, we must however not forget, has a very wide application. I think it perhaps enough to reply here that, where we consider that such

And for this reason a result, when it has only been expected, is not taken as willed. Expectation is not volition except to that extent to which it is a will for apprehension, and is a will so far for a change of my psychical existence. If I expect the arrival of a letter and the arrival in fact happens, my idea has certainly been realised, but the result is not attributed to my will. The cause of the letter's coming is not taken to lie in existence *plus* my idea, but in existence qualified by other and independent conditions. We may illustrate again by the case of a spasmodic movement which is expected but not willed. The whole question is in brief whether, and in what way, my idea contributes or does not contribute to the result.[1] We may illustrate this once more from the other side by a different example. If instead of the arrival of a letter we take the cessation of a pain, we may now be unable to decide as to the expected result having issued from my will. And the question here again will be whether and how far the idea itself contributed towards bringing about its own existence. I shall have in another article to enter more fully into the conditions of our perception of agency, and it is sufficient to insist at present on these two main points. On the one hand the existence must be changed so as to express the idea, and on the other hand this change must not come from the mere existence itself. If we do not take the alteration to be made by the idea, we are bound to deny the real presence of volition.[2]

an element has importance, and where we wish to insist that its presence really, as we say, 'makes the difference,' we may fairly speak of the change as being produced by it.

[1] If I have not misunderstood the doctrine advocated by Prof. Münsterberg in his *Willenshandlung*, he considers the mere precedence of the idea enough to produce the appearance of volition. Any such doctrine would however seem to be opposed to the plain facts mentioned in my text. Since writing the above remark, as well as the present and the two following articles, I have made the acquaintance of Prof. Münsterberg's interesting *Grundzüge der Psychologie*. The account of our volitional consciousness seems considerably amended there (pp. 354-5), but it remains, as I understand it, fatally defective. When a man expects to yawn, and then this happens, it surely does not by itself give him the consciousness of will. On the other hand it falls, so far as I see, within Prof. Münsterberg's definition. But the problem, I venture to think, has been made hopeless from the first by more than one unexplained, if not arbitrary, assumption, and I must regret that Prof. Münsterberg's great penetration and ingenuity have not been applied in larger measure to the work of making clear his principles.

[2] On Expectation *Cf.* MIND, No. 49, pp. 16, 30, and N.S., No. 41, p. 9. I do not admit that in all expectation there must be will or even desire, but, so far as there is will, it is a will only for the ideal development of the object in and for me, and any other will, if present, falls outside the

I have now to some extent explained the sense in which volition is described as the self-realisation of an idea, but I have so far said nothing on the meaning of the phrase 'identification with self'. I shall discuss this latter point hereafter at some length but for the present it must be deferred. There are difficulties which still attach themselves to the former part of our definition, and I must endeavour in this article to remove them and to correct some mistakes.

It may be objected first that will cannot be the alteration of existence by an idea, since there may be a volition where the idea does not really carry itself out. And as examples of this may be adduced such cases as resolve and intention, will in paralysis, and again the facts of disapprobation or approval. I will discuss these objections beginning with resolve; and in connexion with this point I must deal with a matter of importance, the difference between a complete and an incomplete act of will.

If intention and resolve by themselves were really volition, why should we hear of a *mere* resolve or of a *mere* intention? The question is obvious and, I will add, it points to an evident truth. A resolve in its essence is not a volition, and, so far as actually it is will, it is so but incidentally. The moral chasm between the two facts often cannot be ignored. It is plainly one thing to be resolved beforehand, and another thing to act when the moment has come. And, if resolve

expectation itself. It is instructive to take a case where I both will a result and also therefore expect the result to happen. We have here (*a*) the existence as it is now, and (*b*) the existence ideally qualified for me by the result, when taken by me as subject to the condition of my idea and a time-interval. And so far there is no opposition between my idea and existence, and no awareness of will. For the actual volition we must have also (*c*) an awareness of the opposition of my idea of the result to the existence as it is now, followed by the attribution (in some sense) of the actual change as an effect to the idea. We need not stop to notice also the further possible attribution of my better apprehension of the result, when it arrives, to another volition. What we should observe in the above case is that, for actual volition to take place, the consciousness of the time-interval must for the moment lapse, or at least pass into the background, and that on the other hand this consciousness is essential to expectation proper. A thing may be desired and expected, and may even be willed and expected, but, so far as in the proper sense it is expected, we must add that, so far, it is not properly willed or desired. If you do not feel the idea of the change to conflict with the present existence, you have no experience of volition, and, so far as the certain future is emphasised, this opposition disappears. On the other hand in all expectation there is a tendency for this qualification by the time-interval to drop out. The moment that this happens there is an opposition between the existence and the idea, and desire and perhaps volition may in consequence be generated forthwith. *Cf.* MIND, No. 49, p. 16.

were will, then to make a hero, or again a monster of vice, no more would be wanted than defect of imagination with ignorance and foolishness. But a resolve really is not volition, and the point of difference seems clear. A resolve is directed, and it must be directed, on what we know is not yet actual, and so is only ideal; while volition, as we have seen, must invariably begin with the present 'this'. Volition on the one hand is not confined within one moment, and yet on the other hand volition must start always from the actual present, while in resolve, if this could happen, the essential character would be lost. I do not mean that the existence which resolve confronts is always conditional, though, where this is so, resolve, we may notice, remains still resolve. Resolve may be directed on a prolongation of the present which, though ideal, is unconditional, but it never in any case is concerned directly with the actual 'this now'. Its object is sundered from the present by an interval, and is known to be so sundered; and, if it were otherwise, and if to the smallest extent resolve could deal with the actual 'now,' it would have evidently ceased to be resolve and would have passed into volition.

This to me seems clear and I take the denial of it to be an obvious error, and it is therefore desirable to ask how such an error can have arisen. The doctrine of will, we may remind ourselves, is full of difficulty, and a readiness to grasp at anything which seems likely to help is a natural weakness. But apart from this there are various causes likely to create confusion about will and resolve. (i.) Will may be taken in the sense not of actual volition but of standing tendency. (ii.) Resolve in many cases involves the actual volition of a psychical state. (iii.) There is an incomplete as well as a complete act of will, and, though resolve never can amount even to an incomplete volition, it can partake of its nature. For incidentally it consists partly in the same process and goes some length on the same road. But in resolve (I would repeat this) the existence to be changed by the idea is severed invariably by a gap from the actual present. I will now proceed to explain these three grounds of error, beginning with the last, and in connexion with this I must emphasise the distinction between complete and incomplete will.

With will taken in its full sense I agree that psychology cannot concern itself. My will is not completely realised until its end has been actually attained, even if that attainment does not take place until after my death. And for some purposes the confinement of will to a narrower meaning would not hold. But in psychology this complete sense is, I

think, inadmissible, and the process of will cannot be taken as extended beyond the limits of my body. And even these limits, some would insist, are already too wide. If will is a psychical state, it cannot, they would urge, include a physical consequence ; and even a psychical result must on the same principle be excluded from will. For a psychical fact, it can be argued, must in every case be defined as what itself actually is, and it is not characterised by anything beyond to which, however probably, it may lead. But I cannot for myself, even in psychology, accept on the whole such a limitation of will. I do not agree that, when a psychical process leads normally to a certain result in the individual's body or mind, the result can never be considered as part of the process. Such a question as how, for instance, I can will successfully to recall a word or to move my hand, must fall, I think, within psychology. I cannot naturally regard such results as events external to my will, and as additional consequences the absence of which leaves my will unaffected. In volition the end anticipated in the idea is normally carried out into fact, and the process is normally recognised as a single movement of one and the same thing throughout. The removal of one part of this process leaves the whole incomplete, and to my mind modifies its character, and I cannot accept the mere beginning by itself as essentially complete.

Psychology, I agree, has to set bounds to its subject. The extent to which it can recognise physiological fact is limited. It will admit no more of this, in short, than it is forced to admit in order to justify its own account of psychical phenomena.[1] And psychology, I agree, cannot follow the process of will beyond the limits of the body, but on the contrary must take will as ended within them. While not denying, that is, the completer sense in which will goes on to a further end, the psychologist may fairly say that he is unable to consider it. And for certain purposes within psychology (as again within ethics) I agree even to a further limitation of will. The psychologist may narrow even further the meaning which he gives to the word, and may use it in a still more incomplete sense. He may take volition simply as that fact which at the present it is, without regard to anything physical, or even anything psychical, that we expect to result from it. Thus, if I will the movement of my hand, my volition, we

[1] On the one hand physiological explanation and fact has, taken for itself, no place in psychology. On the other hand, if it is anywhere contended that a difference in the physiological explanation affects materially the psychological account, I do not see how such a contention can be on principle excluded.

may say, already is there, although my hand may perhaps in fact not actually move. And, if I will to recollect, then I may go on in fact either to succeed or to fail, but in each case alike my volition really is present. In this narrower sense we may for certain purposes take volition as actual. But I must insist that, however actual so far, my will so far is incomplete.

We may in other words distinguish roughly two periods or stages in volition. The first of these stages will consist in what may be called the mere prevalence of the idea, while in the second stage the idea will advance beyond its own existence towards its physical or psychical end. And I agree that in psychology we have a right to make use of these distinctions. On the other hand I urge that they everywhere involve some abstraction, and that this abstraction may be more or less artificial and vicious. There are cases where the action follows on the idea without hesitation or delay, and the stage of prevalence can hardly be said here to have an independent duration. And again the mere prevalence of the idea may itself go beyond the idea, for it may depend on the idea's carrying itself out to some extent into the fact. An actual movement of my body, however partial, may be the means by which the mere idea of such a movement prevails. On the other hand in certain cases we may consider the whole process of will as roughly divided into two more or less separate movements. In the first of these the idea, we may say, merely as an idea gains possession of my mind, while in the second it advances further beyond itself to realise itself in the facts. And while I must insist that the first stage, if taken strictly by itself, is not a complete or even really an incomplete act of will, on the other hand, viewed otherwise and under some conditions, the prevalence of the idea does amount to an incomplete but actual volition.

But it will be objected that, if volition may ever be such an inward event, our definition of will is no longer tenable. Is not the prevalence of an idea, I may be asked, something different from its realisation in fact? In order to answer this question we must inquire in what this prevalence consists. The point is difficult, and, in order to deal with all sides of it, I am forced in passing to anticipate a future result.[1] In the presence of a practical idea we have of course an ideal change of existence, and on the other side against this we have the actual existence itself, existence merely psychical or physical as well. But in the presence of

[1] The point has been noticed briefly in MIND, No. 40, p. 10.

an idea which is willed or desired, we have another feature also. The existence outward or inward, which is to be changed by the idea,[1] is also in a special sense a not-self opposed to my inner self; and this opposition, we shall hereafter see, is essential to will. This feature may be called in a sense the idea's prevalence. For the idea is felt as something which is in one with my whole inner self, and hence nothing in me can oppose it except some element which in a sense is excluded from my self. Prevalence in this sense may however belong to ideas which I should agree are not willed, and by itself therefore it evidently is not enough for volition. And there is no reason why we should further here concern ourselves with it.

We may pass from this to consider prevalence in another sense more material to our inquiry. If an idea is to be willed, it must not merely be felt as in one with my inner self. In order to be willed it must also dominate my psychical existence, and must banish or subject to itself whatever there is contrary to its being and progress.[2] Now prevalence, taken in this sense, is clearly a process, and it may develop itself to completion through various stages and degrees. Hence we may agree that, when the process is complete, we have reached volition, but on the other side must insist on an inquiry into its aspects and stages. For here once again we may verify the presence of will as the self-realisation of an idea. (i.) The idea in the first place has to banish or subdue any idea contrary to itself, and it has to overcome hostility or inertia wherever that is found in any other psychical element. And (ii.) together with this the idea must develop its own content. It must to some extent go on to specify and to individualise further its own proper nature. As the idea, say, of striking prevails it will become at the same time less general. It will become more and more the idea of a blow of this particular kind struck by myself in my present individual character. (iii.) And in most cases, though perhaps not in every case, where the idea practically prevails, the specification of the idea will already include and consist in some part of its realisation beyond itself. The prevalence

[1] We must never forget that the existence to which the idea is opposed may be merely psychical.

[2] I do not here discuss how this sense of prevalence is connected with the former one. We have on one hand an unwelcome fixed idea which gradually dominates me, until, all opposition being overcome, it is identified with myself. On the other hand we have a desired end which I feel wholly to be mine, and which yet cannot realise itself against some part of my psychical being.

of the idea, that is, implies, as already actual in psychical and perhaps in physical fact, a part of that change which it is the business of the idea to carry out into existence. We shall understand better the importance of these aspects, when we have examined some cases where will is alleged to exist apart from a realisation of its idea.[1]

I will however first ask generally in what sense and how far these three aspects of the idea's prevalence amount to its realisation in fact. (i.) In its subjugation or banishment of antagonists, and in its possession, as we say, of my self, the idea takes a step without which it could not advance to its end. If however by an artifice you consider this aspect by itself, it will belong to the progress of the idea as a necessary condition, and will not by itself be that actual progress. (ii.) But with the specification of the idea's content the case is modified. Certainly in itself this internal development does not carry the idea out beyond its own being into fact. But on the other hand it is itself the beginning of one continuous process which beyond a certain point does so alter the actual existence. (iii.) And at least in most cases the process of prevalence has already gone beyond that point. It does to some extent, as we saw, involve an actual change of the fact so as to correspond with the idea. And this alteration, however partial and slight it may be, carries so far the mere idea beyond itself into existence. A state of mind, possessing these three aspects, is a realisation of the idea which we must admit is incomplete, but up to a certain limit it is an actual realisation. The idea has actually moved in the strictest sense on its anticipated journey. And measured by our definition such an advance may be called an incomplete act of will. A prevalence on the other hand which

[1] With regard to using the impossibility of recall as a mark of prevalence, I do not think that by this we should really gain anything. The prevalence of the idea certainly implies that the process must advance unhindered by 'me,' the 'me' being here understood not to contain any psychical element to which 'myself' is opposed. But this prevalence, we have already seen, is not volition. On the other hand the impossibility of recall, if taken in a fuller sense, would be deceptive, for it would depend on circumstances more or less accidental. To pass to another point, we may here notice the question whether an act which takes time is to be regarded as one will or as several. We may answer that, so far as the sequel does not follow automatically from the beginning, the act may be regarded as having both characters. Each new change in existence, which is made directly by the idea, may so far be regarded as a new volition. This point may become important where the idea has failed to anticipate features which arise in the actual execution, and where in consequence the will becomes, as we say, paralysed, or has to be renewed.

remained ideal and failed to include this third aspect, I should myself refuse to term even an incomplete volition. It is an approach to will which has stopped short of the actual state, and how it can seem to have reached it I shall soon endeavour to explain.

We have now to some extent perceived the nature of complete and of incomplete will, and the degrees by which completion may be gradually approached. I have pointed out how, even in a case of incomplete volition, the idea to some extent has carried itself out into fact. And where this feature is absent the idea may in a sense have prevailed, but I should certainly refuse to admit that volition has begun and that will is present. I can hardly hope that so far I have conveyed my exact meaning to the reader, but this meaning will, I trust, show itself in our examination of detail. And we may forthwith return to those cases where volition was alleged actually to exist, and where on the other hand the idea was asserted not to carry itself out. We may take first the objection which has been based on the fact of will during paralysis, and we may join with this an inquiry into what is called a 'will' for something not under our control. I shall then consider such an instance as our unsuccessful will to recall a name, and from that can pass to the claims of resolve and approval.

If a man's arm is paralysed so that in fact he is unable to move it, he is none the less able, we are assured, most fully to will this movement (See Prof. James, *Psychology*, chap. xxvi.). I do not question here the fact itself, but I should interpret it as follows. The patient perceives the existence of his limb as it is, and over against this he has the idea of its alteration. This idea possesses him, and, apart from the above perception of existence, it finds in him nothing which seems to oppose its complete realisation. The idea starts unchecked on its anticipated course and becomes more particularised, and then, at a certain point beyond this, it ceases to advance. But, although the idea no longer goes forward, there is a sense of actual volition. Now, as I understand the facts, the idea, in most cases at least, succeeds to some extent in passing beyond itself into actual fact. It moves not the part required but other parts of the body (James, *ibid.*). And, where this is the case and where such an actual movement is also perceived, I take it to explain in accordance with our definition the consciousness of will. The idea has moved forwards towards the change of fact, not only, as we say, in its own character, but beyond itself into an actual movement of the body. And this movement will, I assume, be perceived

as a continuance of its progress. And a process carried out to this point may, I think, be taken as a volition which is actual although incomplete.[1]

But, it may be urged, there are cases where the idea does not advance outwards even up to this point. In these cases the idea remains entirely within itself, and after all there is an actual experience of will. If this does not take place in paralysis, I may be told, it happens often elsewhere. It happens where I will, for example, the movement of something outside of and unconnected with my body, as, for instance, the arrival of a letter or a change of position in the furniture of my room. Now with regard to this alleged fact I do not dispute that in a sense it takes place, but as to what happens when it takes place I remain in some doubt. For myself usually, where I will, let us say, a chair to transport itself across the room, I find that I connect this anticipated movement with some bodily act of my own. A fixed glance, an order uttered inwardly or some other slight movement, goes in most cases together with the 'prevalence' of the idea; and this actual movement, I believe, enters into the process of that idea's content. And, so far as this is so, the idea once more has carried itself out beyond itself. The idea has begun an actual change of the opposed existence, partial indeed and indirect, but enough probably to give the sense of its process having passed out into fact. And there is a further point which, in connexion with all these cases, I would recommend to the reader's notice. If I 'will,' let us say, that a letter has arrived or that a chair of itself is to come towards me, I find that a vivid imagination of the event may be a condition of my willing it to exist. I may have, that is, to view with my mind's eye the letter now somewhere waiting for me, or I may have to see in imagination the beginning of the chair's advance. And, if I so help myself, I am able to reach an imperfect but actual consciousness of will, and I admit that possibly I may reach this in the entire absence of any bodily

[1] The movement is not perceived as a complete carrying out of the idea. For in the first place the part moved is not that part of which the movement was willed. And in the second place, even if the two perceptions were to some extent confused, the absence of movement also in the required part, an absence which is perceived, would lead us to regard our volition as frustrated. On the other side our volition, though incomplete, will appear as actual. For the bodily movement, following in a continuous process on the prevalence of the idea, will naturally come to the mind as a sign that the idea has passed over into the body, however inadequately. And a process carried out to this point may in accordance with our definition be taken as will, as a volition which is not completed but which still is actually there.

movement. This experience has perhaps an important bearing on our problem. We have willed so often in fact that we can will, as we say, in imagination, and while my hand is stationary I can imagine myself producing its changes. And let us for argument's sake agree that this may happen without a muscular movement. We call this volition imaginary because it is not directed upon our actual fact, and because its change is not the movement in fact of my real hand. But now suppose that, while I will in imagination some movement of my hand or of a chair, I have these objects at the same time actually visible before me. Their perceived rest must oppose the progress of my idea into the fact now and here, but on the other side their imagined motion will support its advance, and will so far give me the consciousness of will. We have only then to suppose some confusion between the object as perceived and as imagined, and the door is opened to a more or less illusory awareness of actual will. And this remark may have a bearing wider than that which appears at first sight. Where a process is familiar and where the beginning of that process is given, it is possible to gain a premature and perhaps deceptive awareness of the end. And in this way I think we may sometimes create a more or less fallacious experience of will.

The conclusion then, which so far we have reached, can be briefly resumed thus. An actual volition may certainly be involved in the prevalence of an idea, but that volition at the same time will be incomplete. But there will not be in any case even an incomplete volition unless to some extent the idea carries itself out beyond itself. Where this aspect fails there will at most be a doubtful experience, due to a confusion between imagination and fact.[1] We may verify the same result again in such a case as our will to recollect.

The idea of recalling some name or some other circumstance may be suggested to my mind, and I may decide by an act of will to carry out this recall. But the attempt may fail in fact to succeed, though the volition has been actual, and the idea, it may be said, therefore has prevailed but has not to any extent realised itself. This is an interpretation which once more I am unable to accept. There may have been in the first place a successful will for some internal utterance, and,

[1] If the mere prevalence of the idea is looked upon as a step towards its carrying itself out, and, if it comes to the mind in that character, some consciousness of will would naturally result. I could not myself however admit the actual presence of will, except so far as the prevalence of the idea incidentally involves its actual passage beyond itself as a mere idea.

apart from this, we may notice another important feature in the case. A will to recollect is a will to effect a certain change in my psychical being, and, even where this idea fails to carry itself out to the end, yet in its prevalence it may make, as we saw, some actual advance beyond itself. The possession of myself by the idea of a name to be recollected involves to a certain extent in fact the actual process of recollection. The recalling consists, that is, in the recovery of contiguous detail, and, so far as I can judge, wherever the idea of such a recall has become prevalent, that detail is in every case actually restored up to a variable limit. If so, the idea, we must say, has to a certain point realised itself in fact. If we take on the other side a case where my inability is more complete, I cannot myself verify in such a case the experience of actual volition. I cannot, I find, 'will myself' to know something, if my ignorance is too complete. Where this ignorance extends beyond a certain degree I cannot myself find a place for the will in question. I must either imagine my case to be other than in fact it actually is, or again I must content myself with the volition of something like a form of words, or else, to speak for myself, I cannot arrive at any experience of will. And this, I think, is not because volition depends on any belief as to possibility.[1] It is because the idea has failed to develop and to realise itself even incompletely, and has not passed beyond itself even in imagination. And hence, if my interpretation of this obscure fact is correct, it will fall once more under the principle which we have already laid down.

I will now return to consider further the case of resolve.[2] We saw that resolve is not volition, since will is directed always upon the present, while an actual aim at present existence must be excluded from resolve. On the other hand there are several causes which may lead to a confusion between resolve and will. In the first place, my being resolved may be a state of standing or permanent will. We shall inquire later as to the proper meaning which belongs to this phrase, but a resolve so understood, though in a sense it is will, is clearly not itself an actual volition. In the second place I may of course have willed to form some resolution, and in this case there is certainly an actual volition. But what has really been willed is the production of the mental state called resolve, and the volition here and the resolve itself are clearly not the same thing. And there is in the third place another reason why will and resolve are confused.

[1] This point is discussed later.

[2] *Cf.* here *Appearance*, p. 463.

The essence of a resolve, we have seen, divides it from volition, for it belongs to that essence that a resolve is directed on something other than the present. And yet incidentally it may imply an actual though incomplete will. The idea in a resolve may to a greater or less extent carry itself out at once into actual fact, and, so far as this process takes place, it will involve a real volition. Or again in resolve the idea may be realised in an imaginary existence, an existence more or less confused with actual fact, and, so far as this confusion happens, the resolve will be accompanied by some consciousness of will. But every such process falls, we must not forget, outside the resolve, when that is taken in its own true and special character. That character implies that the existence which is confronted by the resolve is distinguished from the existence which is present here and now simply. And, if this consciousness of difference lapses, and so far as it lapses, resolve has necessarily so far ceased to exist. In other words, when I resolve, I must take my idea as not to be realised at once now and here. And if the idea were not thus separated in my mind from a possible advance at once into the facts, resolve would have passed into will incomplete or complete. It is, we saw, not true that the existence aimed at by my resolve is always conditional. That existence may be taken as certain although lying in the future ; but in every case necessarily it is regarded as sundered from the present. Resolve on the one hand is no mere contemplation of an anticipated or imaginary case. For there is an opposition of the idea to the contemplated fact, and a forward movement of the idea to alter this fact to itself. And we have seen that incidentally this advance may imply such a change in the actual fact as amounts to a real though incomplete will. But such a change, I repeat, is so foreign to the essence of the resolve that, if it were directly aimed at, the resolve would knowingly have passed beyond itself.

There are some additional cases where it is urged that volition can be present, although in these cases the idea fails to pass beyond itself. I must however defer the consideration of what Prof. James has called ' consent,' and the discussion of any argument based on Mr. Shand's ' types of will '. I shall explain hereafter why I am forced to reject these doctrines, and I must content myself here with some very brief remarks on the subject of approval. The approval or again the disapproval of a mere idea has been held to constitute will, and such a doctrine once more is in conflict with our account. There are two ways in which ' the idea ' may be here understood. It may be taken as the idea of a change to

be made in my present existence, and in this sense we have in effect discussed its claim already. There will be an actual volition so far as such an idea prevails, and so far as in its prevalence it also succeeds in carrying itself out. Apart from this process my approval certainly is not volition, and, where this process is present, my approval adds nothing to will. If on the other hand the idea were not an idea of a change here and now, volition so far would be even excluded by approval. To approve of things as they really are, or as they are imagined to exist, is to take an attitude in itself contrary to actual will. The subject of disapproval, so far as that requires any further treatment, must be deferred. Disapproval in itself is not will and, so far as it becomes will, it falls under negative volition. This is however a topic too obscured by error to be briefly discussed. I shall consider it hereafter at length when I examine some alleged irreducible types of will.

I have now dealt with several objections raised against our definition of will. They have been based so far on the assertion that the idea in will need not carry itself out beyond itself. And I have tried to show that such an assertion cannot be maintained. I must pass from this to examine some other views which in my opinion are mistaken, and we may begin with the alleged necessity in will for the presence of judgment or belief. But, before I discuss this, I will remark on a point of importance.

We have seen that the idea in volition must prevail and dominate, and this in the end means that we are moved by but a single idea. I do not say that beside this one idea no other idea can be present in will, but, if present, no other idea can be the object of will or desire. It cannot be the suggestion of a change which, felt in one with my inner self, then moves itself towards its own existence in fact. So far as in volition we have the presence of two moving ideas, one of these, unless it comes as a not-self opposed to my inner self, must tacitly or explicitly be subordinate to and included in the other. It must enter the main process as a passive accompaniment or as an active factor, and it may contribute to the total idea positively or again by the way of its own subjection or banishment. I have explained the above doctrine in a former article and to this I must refer.[1] If in will there ever remains an independent practical idea which is not thus subordinated, that idea will belong to the not-self which is opposed to myself. There is not really a

[1] MIND, N.S., No. 41, and again No. 43.

divided will and there is not even a divided desire, if these are understood as volition and as desire which actually exist. The plausibility of the opposite view comes mainly from a mistake as to what is meant by 'one idea,' and this logical error has resulted in mal-observation of the facts. But I am unable here to do more than refer the reader to my preceding articles.

This doctrine of the idea's monarchy has another side which I will now proceed to notice. The idea which realises itself in will must be the idea taken as unconditional and unmaimed. I do not mean that the incomplete realisation of a positive idea cannot be will. Under some conditions I have agreed that an incomplete process may be an actual will carried out imperfectly. But under other conditions the passing into fact of anything short of the idea in its entirety must be denied to be will. And there are cases which exhibit strikingly the truth of this principle. If my idea contains the restraint of A, and if A then is carried out into fact unrestrained, my idea, it is clear, has not been realised. The same conclusion holds where my idea was to realise A modified and subject to a condition, and where in the actual process this modifying condition falls out. In these cases the result indubitably has not come from my will. And we must again deny will where my idea has indeed been actually carried out, but where the result follows not from the idea itself but from some other condition. The future application of these doctrines will show their importance, and I must content myself here with inviting the reader to notice them. I will however add an example which I have not invented. A priest in hearing a confession may himself pass into the fault reported by his penitent, and this result may be culpable, but presumably it is not willed. The idea, we will assume, has here carried itself out, but it has done this in such a manner as to lose its identity. Provided, that is, that the idea has remained qualified in my mind as the act of another, it cannot in its proper character and as such realise itself in my person. Such an idea, while it maintains its integrity, cannot pass into will, and any consequence therefore in the strict sense is not an actual volition.[1]

I will proceed from this to examine the mistaken doctrine which I mentioned above. Beside the prevalence of the idea it may be contended that volition implies always a judgment

[1] This distinction between an unqualified and a qualified idea bears on the question why ideas do not always realise themselves. I shall deal with this point hereafter, when I have to show the means by which ideas carry themselves out.

or belief, a judgment, that is, with regard to my future or at least my possible action. This is a doctrine which I have never been able to accept. We may begin by distinguishing two senses in which judgment can be used. In its ordinary meaning a judgment about the future asserts its idea of my 'real' world, a world which includes everything which is taken as continuous with itself and in the same plane with its own 'reality'. But there is a wider sense also in which judgment may be taken. In this wider sense every possible idea is at the same time a judgment, and, in being entertained, is *ipso facto* used to qualify reality. The imaginary, the absurd, and even the impossible, are upon this view all attributed to the real, for all ideas in a sense, so far as we have them at all, are the predicates of reality. It is however not in this wider meaning that a judgment about the future is asserted to characterise volition. Indeed in this wider sense we should judge of the possible and the future as of something which *is*, and with this clearly we should have removed the distinctive essence of will. But in any case, I submit, it is not true that in volition the idea is always the idea that *I* am about to do something. I cannot admit that the qualification of the change as my act must always in volition form a part of the idea's original content. This is a point which I shall hereafter endeavour to make plain, and I can do no more here than recommend it to the notice of the reader. Its consequence, if made good, must be the rejection of the whole doctrine we are discussing, whether that is taken in a wider or in a narrower sense.

The sense in which judgment has been actually claimed to be essential to will is the narrower meaning which it more commonly bears. And the claim so understood seems to me to be in collision with fact, and the origin of the mistake can, I think, also be shown. I will point in the first place to the collision with fact.[1]

The presence of a judgment in all volitions certainly cannot be discovered. You will not find it everywhere when apart from theory you examine the facts. If you take the case of actions where without delay the result follows the suggestion, no one, apart from theory, would deny that many such actions are willed. To suppose on the other hand that everywhere, before or even during such an action, there is a necessity for the judgment that I am about, or if possible

[1] In the above I am taking belief throughout as identical with judgment, but for some purposes I should consider it needful to distinguish them sharply from one another.

about, to perform it, to my mind is indefensible. Unless you confine will arbitrarily to a certain number among reflective volitions, I cannot find this judgment, and I must express my disbelief in its existence. I will however not dwell on this point but will leave it to the consideration of the reader. It serves, if made good, as a disproof of the alleged necessity for judgment.

I will however add to the above objections an additional difficulty. In a highly developed mind and under exceptional circumstances there may happen, I think, a case of the following nature. There may be present a judgment of the kind required, and then an act in which the idea is realised, and yet in spite of this there may be no real volition. I may have an impulse to sneeze where I have also a desire to restrain myself, and the impulse may induce a moving idea of its result, and even also the judgment that probably or certainly I am about to produce it. And yet, if the act follows, and is even the effect of the idea and the judgment, the act under some conditions must and would be denied to be a genuine volition.[1] I am aware that according to some writers such a complex case is not possible in fact, and, if the judgment amounts to what we call a lively impression and a vivid belief, I am inclined to agree with them. But otherwise I think a judgment of the kind required may be present in the case I have mentioned, and yet its consequence may be evidently not genuine will. And I submit this objection to the reader for whatever it may be worth.[2]

[1] I have discussed these conditions in MIND, N.S., No. 43.

[2] Dr. Stout has adduced and discussed this instance (MIND, N.S., No. 19), and in connexion with it defends the doctrine criticised in the text. But the view which he advocates remains to me untenable and also obscure. "Volition is a desire qualified and defined by the judgment that, so far as in us lies, we shall bring about the attainment of the desired end" (p. 356). The words "so far as in us lies" may however be understood in several meanings. They might be qualified either by the addition of 'physically' or 'psychically,' and, when we adopt 'psychically,' we may do this in more senses than one. We may take volition to be complete when there is a certain judgment about the future together with desire, or we may mean that beside this a domination by the idea is required. But the discussion in the text provides, I think, for the whole of these cases, since in the main it rests on the denial of a necessity for any judgment at all. With regard to the presence of desire I shall hereafter explain that in my view desire is most certainly not necessary for will. But, to pass from this and to return to the instance of the unwilled sneeze, I do not understand that Dr. Stout could deny the possibility here of a desire for the result as well as of a judgment in the absence of will. And I may perhaps urge this as an objection, although I could not myself admit a desire here in the strict sense of actual desire. In addition I may remark that in any case 'desired' must

But if in truth no such judgment belongs to the essence of will, how, we may be asked, can a mistake of this kind have arisen? There are two reasons, I think, which have combined to make it plausible. (*a*) A judgment is the way in which we often and naturally express the fact of volition or resolve. It is not however a necessary expression or an unfailing accompaniment of this fact, and it may be so formulated as to become even incorrect and misleading. The judgment never is correct unless it refers to the volition as to a fact independent of itself. Thus 'I shall certainly do this' may mean that I am so resolved that on the occasion my volition will happen. Or it may refer to an actual volition already begun, and may assert that this process is about certainly to complete itself. But the resolve or the volition are here regarded as facts the existence of which does not depend on my judgment about them. The judgment therefore, even when correct, is not essential. It is no more than an accompaniment, and, even as an accompaniment, it need not be there. And on the other side the judgment may take a form which is not even a tolerable translation of the fact. "I want to do it, and so naturally I am sure to do it as far as lies in me," would not be the expression of a present resolve or of an actual will. It is the voice of one who passively contemplates a future state of moral drift.

(*b*) There is another reason why a judgment has been supposed to belong to the essence of will. 'One cannot,' it is said, 'will to realise an end which one regards as impossible,

be understood as 'desired to be had here and now,' and the judgment must refer to an immediate production of the result. If on Monday I have the belief or judgment that on Wednesday I shall assuredly be tempted to realise an end which I even now desire, and shall infallibly, 'so far as in me lies' and apart from interference, bring about this result—such a state obviously need not already be an actual volition, and it need not even amount to a resolve or intention. So far as the desired end is viewed by anticipation as being realised by something in the future, it is so far not willed or intended by me. You do not get present agency unless my idea is opposed to fact, real or imaginary, and against this present fact realises itself and me. I have however already explained this point in distinguishing expectation and again resolve from will. But the words "so far as in us lies" are capable of yet another interpretation. They might mean that, in order to be a genuine volition, an act must proceed from my higher or true self, and that, if it is to a certain point irrational, it must be denied to be will. I do not know how far I should attribute such a view to Dr. Stout. It is a point discussed by me in MIND, N.S., No. 43. I may say in conclusion that I have considered the remarks which (in MIND, N.S., No. 23) Mr. Shand has offered on Dr. Stout's doctrine of will. I cannot however say that in consequence I have been able to find this view clearer or more satisfactory.

and in willing therefore one must judge that the end is possible.' But surely there is no force in this unless you assume the necessity for some judgment, and this assumption, I have pointed out, is opposed to the facts. We may however in this connexion inquire how far we can will the impossible.[1] We must, I think, assert or deny a will for that which is judged to be impossible, according to the sense which is given in each case to these words. If the act is kept before the mind in the character of a thing which is impossible, no volition, I believe, can ensue. And the same conclusion holds if for 'impossible' we substitute 'doubtful'. I do not mean that an act cannot in some sense be judged to be doubtful or impossible and at the same time be willed; but an act cannot be willed if, in being willed, it comes before the mind as impossible or doubtful. If, that is, the idea remains actually conditioned in this manner, it does not itself issue in an act; and, if an action comes, it will certainly not be the volition of this idea. A judgment, we may say, that some end is impossible or doubtful prevents incidentally the prevalence of the idea in our minds, and so by consequence destroys the beginning of will. And this is true, but the more correct explanation is as follows. The idea of an action, if qualified as impossible or doubtful, is not truly and correctly the idea of that action. It is really a complex in which the simple idea of the act is an incomplete element. The act therefore, if it follows, is not the realisation of the genuine idea, and so by consequence it is not so far a genuine volition. The idea of anything as doubtful, impossible, or imaginary, cannot as such become fact, and, if an action is to come from such an idea, that idea must alter its character. Its qualification may either pass wholly from before the mind, or it may be relegated to some other world remote from practice.[2] And, so far as this happens, the unqualified residue becomes and can work as the unconditioned idea of the act. Such an action, though it may be will, is not however the volition of the original idea, and I need scarcely add that it does not require and depend upon a judgment.

I will at this point very briefly notice several fresh errors. I cannot accept the doctrine that desire is essential to will. Where volition follows on a suggestion and follows without

[1] *Cf.* here Prof. James, *Psychol.*, ii., 560.

[2] The extent to which such a division in the self can be carried is in some cases considerable. The subject is further discussed in MIND, N.S., No. 43. The reader will notice that I treat as an obvious mistake the doctrine that the idea's content is not affected by a change in its modality. This mischievous error is far too prevalent.

delay, to assume that desire in any proper sense must invariably be present seems plainly indefensible. I shall however return to this point in a later article. Another more palpable mistake is the identification of volition with choice. The nature of choice is again a subject to be discussed hereafter, but, where choice is taken in anything like a natural sense, it obviously is not coextensive with volition. And this fact to my mind is so clear that I can see no advantage in discussing it. I must again adopt the same attitude with regard to attention. If attention is understood in the sense of an active attending, I cannot verify its invariable presence in will. Such a claim, it seems to me, disappears on confrontation with fact, and I have dealt with it, so far as is required, in a former article (MIND, N.S., No. 41).

The objections, which so far we have considered, admit the presence of an idea in volition, and have been directed more or less against that idea's self-realisation. I will proceed now to those which deny that an idea is essential to will. There are undoubted acts of volition, it will be contended, where no idea of the end is even present. And such a contention, if made good, would be a fatal difficulty, but on the other hand I cannot doubt that it is opposed to the facts. In every case of will I must insist that an idea is present, and, if an idea is not present, no one, I believe, apart from some prejudice would call the act a volition. We have in this connexion to deal with the actions which are termed impulsive, and with these we may take acts from imitation and from the word of command, and, generally, whatever act is suggested by a perception. Mr. Shand again would instance here the facts of what he terms 'negative' and 'imperative' will.[1]

The above objections are based in the main on one kind of mistake, on a misconception, that is, with regard to the real nature of ideas. When such misunderstandings are removed it will be found, I think, that the objections are groundless. And I will endeavour to indicate the main errors on which they are based.

(i.) An idea (I must insist) has not always a simple character, and what we term 'our idea' or 'our object' may be often the fragmentary aspect of a complex whole. To speak in general, our apparent idea and our real idea may fundamentally differ, and this difference, if unnoticed, may result in delusion. For what we call 'our idea' may in truth be

[1] MIND, N.S., No. 23, to which article I refer the reader for Mr. Shand's views in this connexion. They will be discussed hereafter.

incomplete or again irrelevant. I have had already in previous articles, as in the present, to call attention to this truth, and the neglect of it is a source of widespread error. An idea cannot be identified at pleasure with something less or something more than itself, and the question as to what in a given case is my actual idea, may entail a careful inquiry.

(ii.) An idea may exist and may yet be unspecified and general. In order, for instance, to act on the idea of avoidance or injury, I need not have the idea of injuring or avoiding in some particular manner. The alternative, between the presence of an idea in a specific form and the absence of an idea altogether, is radically mistaken. I agree that something more particular than the general idea must exist in my mind, but I deny that this something (whatever according to the case it may be) must itself belong to the content of the genuine idea which I use. The whole assumption, if I may be plain, is the merest prejudice. In the course of the act itself the idea's content will in its process further particularise itself, but before the act the genuine content of the idea may be general. And it is perhaps sufficient here to call attention to what I will term this evident truth. Once assume that an idea must be specific or be nothing, add to this the assumption that whatever appears at first sight to be our end and object, is always really and truly so—and you may be taken far, but unfortunately away from the truth.

(iii.) An idea itself is not an image, nor is it always even based on an image as distinct from a perception. The denial of this truth is a prevalent error, and it underlies the mistake we have last noticed. But, so far as I can perceive, it is itself a mere prejudice. If a perceived object is to have a meaning and is to convey that meaning to myself, the meaning, I agree, has in a sense to be detached or loosened from the object. But this loosening does not imply always the existence of an image or images, separated from the object and maintaining themselves, for however short a time, as individual or particular. Such an assertion would not hold of our intelligence even when highly developed. Suppose that in answer to the question What has he done? or What shall we do? a feather flying in the air is actually shown, such an example to my mind is a conclusive refutation. It seems absurd to insist that here no idea and no meaning can be conveyed unless through the medium of individual images. Such images, separated from the feather and existing in a middle space *en route* until their fresh subject is reached, are to me mere inventions. The meaning in a more or less general form, is, I should say, conveyed direct from the

feather to its new subject, and the necessary middle-space with its separable images is a creature of mythology. And such a doctrine at a lower level of mind would be still more inapplicable. When a breast appears to suggest sucking, or a fruit eating, or an enemy avoidance or injury, that doctrine would insist that in the absence of individual images, existing separated from the perceived object, there is no suggestion at all. But this to me is plainly untenable. The idea here is the perceived object, so far as that is qualified inconsistently and qualified in such a way that its meaning in part is made loose from itself. This meaning can therefore be applied as an adjective to a fresh subject. And in short, generally, the identification of the ideal with separate images, and the alternative between such images and no suggestion at all, may be set down as erroneous.[1]

If we return to the objections founded on the alleged fact of will without the presence of an idea, we may now discover them to be invalid. The removal of errors will have left them without plausible ground, and, confronted with the facts, they will, I think, disappear. These facts are in general the actions suggested by something perceived, and in particular they are the acts from imitation, from the word of command, together with the acts called impulsive. And with regard to these our position may be stated as follows. If in the act an idea is suggested and realises itself, that act is volition, unless the idea in some way has lost its own character and has in effect carried out something which is not itself. If on the other hand no idea has been suggested, the act has not been really willed. This result I believe to be in accordance with the use of language and with popular opinion, and I do not suppose that it would be useful to dwell further on the matter. The appeal is to the reader who will carefully consider the issue. In every case we must ask whether a suggestion was or really was not made, and, if a suggestion was made, we must then go on to put further questions. What exactly was that suggestion, and did it carry itself out in the act, and did it realise precisely itself or on the other hand something less than or beyond its true meaning? I am content to leave the issue when thus defined to the reader's judgment.[2]

[1] On this and the preceding error *cf.* MIND, O.S., No. 49, p. 23, and N.S., No. 40, p. 5.

[2] There are a few points here which I would ask the reader to notice. (i.) Will and volition are not taken to include what is called a standing will. (ii.) To urge that the idea is often the creature of a blind impulse which it does but passively translate, is quite inconclusive. If the

From this I will turn to an objection which may be urged from the other side. Your definition, it may be said, if not too narrow, is at least fatally wide. "The self-realisation of an idea with which the self is identified—this covers," I shall be told, "facts which too evidently are not willed. When a man gesticulates so as outwardly to express his idea, this process by your account must be volition, while in fact it is not so. And you must include cases where by unconscious movement a man betrays that very idea which he is bent on concealing. Acts done in imitation will, at least sometimes, present the same difficulty, as will again instances where involuntarily we manifest our latent hostility or affection. Add to these the unwilled acts that result generally from a suggestion, if that is over-strong, or if on the other hand the mind is enfeebled permanently, or again temporarily as in hypnotic states. And the question surely, when you consider these cases, is settled. You have defined volition so as to bring this whole mass within its limits, and with such a result your definition has broken down finally."

Before I reply to this in detail I will venture to recall the general position to the reader. I am not in these articles undertaking to cover the whole ground of psychology. I am

'impulse' is entirely without any consciousness of end, then of course so far it is not will. On the other hand, given the idea, the question of that idea's origin is by itself irrelevant, unless you are asking when and how the volition arose. The real question is whether in fact the idea, when it is there, carries or does not carry itself out in the act. The act is or is not will, according the answer given to this question. (iii.) I shall deal with any objection based on the alleged 'imperative' and 'negative' types of volition, when in their proper place I dispose of these doctrines. (iv.) It may be instructive to quote from Mr. Shand's interesting article (MIND, N.S., No. 23, p. 290) what seems on another point a serious misunderstanding of fact. "If we are angry with some one, ideas of hurting or paining him occur, and we sometimes find the pain or injury has been inflicted without any prior consciousness on our part that we were going to inflict it. If we are reproached for the action, we say we did not "mean" to do it." This statement seems to contain more than one ambiguity, but I will confine myself to the words "mean to do it". Does the person using these intend to deny his volition? I should say certainly it is not so. He may intend to deny a deliberate volition or set purpose, but perhaps, and more probably, his denial refers to something else. He is saying that he did not mean to do, and so by consequence did not will, the particular act. He willed, that is, to injure in general but perhaps not to strike, he willed to strike but perhaps not with such a heavy stick, and at all events he did not mean that the blow should fall where it actually fell, and so did not will the particular result. The true question here is about the actual content of the idea, what that was, how unspecified it was, and how far the individual result can be taken as its proper self-realisation. When the facts of the case are ascertained and when they are approached in this manner, I cannot see that they really present any difficulty.

offering a definition of will which claims certainly to hold good everywhere. It claims, that is, wherever it is applied, to remain consistent with itself and with the common understanding of the facts. Hence I consider myself bound to deal with any case that is offered me, if that case is so far defined that one could decide in practice whether it is or is not volition. On the other hand I cannot fairly be asked to explain mental situations which are perhaps excessively obscure or otherwise difficult, merely because they are offered unexplained as an objection. I have to state the principles by which all such cases must be judged, and I am bound to show that when we judge them, and so far as we judge them, the principles hold good. But if a psychical state is so ill-defined that the person who offers it is not prepared exactly to describe it, or to decide if in practice it would be accounted a volition, I cannot be expected to discuss such a fact. Whatever psychical state, in short, is produced as an objection, must, so far as is required, be described by the objector himself. And I hope that on this point there may be a general agreement.

This being understood, I proceed to consider the instances offered above, and I find that I can at once dispose of a considerable part of them. The idea which in will realises itself is the idea of a change to happen here and now in my existence. But it is obvious that in gestures, or in whatever may be called the mimic expression of an idea, the idea does *not* contain the element of my changed existence, and therefore in such a change the idea does *not* carry itself out. The gesture may as a gesture be willed, and if so we of course have volition, and a volition which exactly corresponds with our account. But, if the gesture is unwilled, the change in my existence is indeed caused by the idea, but on the other hand it never was contained in that idea. And, not being contained in the idea, it cannot have been carried out by it. The idea has not realised itself, and by our definition there has been therefore no will. The same thing holds of those movements by which I involuntarily reveal the place of a hidden object. These movements come from my idea and they betray it, and yet you cannot say that the idea has realised itself in them. For the idea of an object in such or such a place is not the idea of my change. The idea of my directing a person to the object, if that idea were unconditioned and so carried itself out, would by our definition be will. And the act would, I think, be so accounted in practice. On the other hand if the same idea is present in subordination to, or even coupled with, the idea of my

preventing its result, then that result, if it happens, is not a volition. It has realised but a fragment of my total idea, and such a fragment, we have seen, is not my idea truly. So again with our involuntary instinctive movements of affection or hostility. If these do not in any sense come from an idea of their happening as a change in my present existence, they are not willed. And, even if they result from that idea, they are not willed, unless the idea became unqualified and expelled or subordinated its rivals. For otherwise it was a mere element in an ideal complex and was not properly an idea. But if the idea dominated, the act has been certainly willed, and in practice it could not be disowned as volition.[1]

With regard to acts done from imitation there is room for considerable doubt. But the doubt applies merely to the facts of each individual case and does not affect the principles on which our decision is formed. Imitation I use here to cover cases where the perception of something done by or happening to another leads in me to the occurrence of the same action or state. And taken in this wide sense imitation, I presume, must occur at a stage where the ideal suggestion can hardly be supposed to exist and carry itself out in the mind. Whether this wide sense should be narrowed we need not inquire, nor can I even touch on the difficulty which attaches to the beginnings of imitation. We are concerned here merely with the principles on which such acts are asserted or denied to be will, and about these principles I see no occasion for doubt. Where there is no idea of a change in my existence, there is by our definition no will, and the same conclusion is even more obvious where no idea at all is present.[2] And the result again is not willed if the idea does not of itself carry itself out. And once more, so far as the idea realised is but one element in an ideal complex, we must so far deny volition. The result from any idea which is qualified incompatibly with its own self-realisation, we have seen, cannot be will. The priest who, hearing confession of sin, through that hearing sinned himself in like fashion, need not, we have seen, have actually willed this result.[3] In

[1] I may once more remind the reader that this subject has been discussed by me in MIND, N.S., No. 43.

[2] We must not forget here that an ideal suggestion may come direct from a perception, and that usually, though not always, the presence of such a practical suggestion in me involves *ipso facto* the dropping out of the element of an alien personality.

[3] The reader will remember that I am not speaking here about degrees of responsibility. I am asking what I at least regard as a very different question, What is and what is not a formal volition? *Cf.* MIND, No. 43.

order here to pronounce on the presence or absence of actual volition, we must be further informed. The idea may have remained involved with another's personality, or may have freed itself from that condition, or it may again perhaps have turned that condition into an element in a new complex idea of sin. In the two latter cases the result presumably is will, while it is otherwise in the first case. But in view of the endless complexity of fact we may well qualify this sentence, and it is better to say that will is absent or present so far as each situation is realised. We must repeat this conclusion wherever an act is suggested by another's personality through imitation, through the word of command, or in any other possible manner. It is not enough to know that the result has arisen from an idea, and has even in a sense come from the idea of a change in my existence. We have in every case, before we pronounce, to ascertain the details more clearly. Was the idea qualified by a condition such as that of an alien personality, a condition which makes it impossible that the idea should as such be realised in me? The result, if so, has not realised the genuine idea and is so far not will. On the other hand, if the suggestion was freed from that alien condition, how far was it freed? The idea of another man striking, if as such it causes me to strike, is so far not a volition. And the same conclusion holds if the idea was of another desiring or ordering me to strike. The question of the idea's qualification in any given case is a question of fact, and, before that case is used as an objection, this question must be answered. And, however it is answered, my difficulties are at an end, since they seem to come solely from the obscurity of the individual case. At the risk of wearying the reader I will illustrate this further by the case of action under threat. If for instance a man signs a paper when threatened, is the act a volition? In order to answer this question we must be informed of his precise state of mind. Was he moved in effect by the mere overpowering force of the suggested signing? Did he again act on the mere idea of escape with momentary oblivion of all else? Was it the idea of escape merely by writing his name, or again by writing his name with a certain meaning, and, if it was the latter, what was precisely the actual amount of this meaning? When these questions are settled we may hope to decide as to the presence of a volition, and as to the limit up to which that volition extended. But, while the fact remains obscure, it is no fault in the principle if it cannot be applied. We may give the same answer with regard to acts performed in hypnotic states, whether natural or induced, and again in madness and gener-

ally under abnormal conditions. The question here as to the presence of formal volition is not, I must repeat, the question as to the existence and amount of responsibility. A man may will that for which he has little or no moral responsibility, and he may be morally responsible for that which he has not formally willed. But as to the presence of volition we must be guided by the principles already laid down. And these principles can, I submit, be applied successfully to every case which has been freed from obscurity.[1]

We have now, I hope, defended our definition from the charge of undue wideness. It will include no consequence which leads to collision with general usage. On the other hand the denial of an idea in will, we have seen, can in no case be sustained. We endeavoured to explain the various points contained in the realisation of itself by an idea, and argued that these points are without exception necessary to volition, while some other features, such as belief and judgment, are not essential. And we defended the distinction between a complete and an incomplete act of will. We have so far neglected the latter part of our definition, and have not discussed the sense in which the self is identified with an idea. In the following articles I shall endeavour to fix the meaning of these words, and in several points to make clear what may so far have remained doubtful. But, before proceeding, I will seek to remove yet another mistake.

It is often held that the genuine object which we desire, and which again we aim at in volition, must be something which when attained falls within our existence. The end, it is contended, must be realised for us, and it is so realised when our idea passes into a perception. And beyond such a perception, it is urged, we can desire and will nothing. I have some years ago remarked on this mistake (MIND, O.S., No. 49, p. 21), but I will attempt very briefly to deal with it here.

We have already noticed the view according to which volition does not pass beyond the idea. The present doctrine is an error of a different kind, and it concerns the meaning

[1] If the suggestion of an act remains so involved with another's personality that it does not free itself, or again become the idea of my doing the act because of that other, the act is not volition. To take another case, if the resolve for a future act leads to action immediately, the act is not will. It fails to be will, because the idea was incompatibly conditioned. There was at most a partial will in the sense in which that has been explained to belong to resolve. The above doctrine as to a foreign personality raises, I may remark, no real difficulty with regard to acts done in common.

contained within the idea itself. It maintains that I cannot even aim at anything which is not to be experienced by myself. And this doctrine, though based on a truth, is itself certainly erroneous. I will pass by that form of it which regards my pleasure as my one possible end, and will confine myself to the view that I cannot aim to realise anything unless that is to be perceived or experienced directly by myself.

If this were true it would in the first place condemn some experience as illusory. No one apart from theory doubts that he can desire and will events to happen after his death. And the suggestion that his real aim is not those events, but is his own present certainty, would be dismissed as ridiculous. The objection that after death a man's end cannot be realised for him, would be met by the reply that he never imagined his end could be so realised. An illusion doubtless is possible here and is sometimes present in fact, but it certainly does not exist in fact necessarily and always. It is in short the belief in this illusion which itself is illusory.

You may urge that a desire, which is not satisfied for my direct knowledge, must remain unsatisfied, and you may argue that in the end I can desire only that which would satisfy my desire. But in psychology, I reply, we can hardly insist on truth which is to be true in the end. And certainly we cannot assume as self-evident that all desires must be able to be satisfied, or identify my actual aim with whatever in the end that should involve or entail. You cannot argue, in short, that I have no desire for a certain object, if I perceive, or at least might perceive, that as such it would not satisfy me. For that personal relation to myself, which is implied in satisfaction, need not enter into the actual content of my idea. Desire is an inconsistent state, I agree, and its inherent contradiction, I agree, should be removed by satisfaction. But I cannot conclude from this that there is in fact no desire except for an end taken as attainable, and free from all inconsistency whether noticed or unnoticed. If you keep to the facts as observed, they are not in harmony with such a conclusion. And if you wish to make the mere existence of a mental state depend on its ultimate self-consistency, I cannot think you realise the effect and the ruinous sweep of your principle.

Volition (and in this respect it diverges from mere desire)[1] does imply a change to happen here and now in my psychical existence. And there is no will, we have seen, unless

[1] I shall return to this point hereafter.

the idea has begun to carry itself out. This process so far may be said to turn my idea into a perception for me, and this perceived alteration may so far be said to be involved in the object of my will. But it is not true that the process always must end at this point, and it is not true that the process is intended always to end there. If the idea of an event after my death is to be realised by my will, that process involves an immediate change in my perceived existence, and my idea so far must become a perception for me. But to maintain that no more than this was contained in my genuine idea, and that, with so much, my genuine idea has completely carried itself out, seems indefensible. The will is so far actual, but so far it is not complete, and it has stopped short of the goal which most certainly was aimed at. Psychology, we have agreed, may at a certain point cease to consider the process, but it must not, on this or on any other account, falsify the actual content of the idea. The general nature of that content is a difficult problem to be discussed in a later article, but we cannot take it as confined always within the limits of my perceived existence.[1]

[1] I do not here discuss another possible ground of the above mistake. This ground would consist in the doctrine that my psychical states, such as ideas and perceptions, cannot also and at the same time be more. On this point see MIND, N.S., No. 33, pp. 5-7.

II.—THE UNITY OF PROCESS IN CONSCIOUSNESS.

By Henry Rutgers Marshall.

I.

§ 1. "The besetting sin of the psychologist," says Dr. Stout,[1] "is the tendency to assume that an act or attitude which in himself would be the natural manifestation of a certain mental process must therefore have the same meaning in the case of another. The fallacy lies in taking this or that isolated action apart from the totality of conditions under which it appears. It is particularly seductive when the animal mind is the subject of inquiry." Although I agree entirely with Dr. Stout in this particular, I think his arraignment applies more aptly to the biologist than to the psychologist; for if in our day this particular sin besets the psychologist, it may be fairly said to enslave the biologist.

But if it be true that careless biologists are often thus led to make absurd assumptions of mental capacity in animals fully comparable with those known to exist in man; it seems equally clear that in revulsion from such illogical conclusions the more careful investigators are in danger of making equally absurd denials of mental capacity in animals where there is very strong evidence of its existence.

The study of the relation between mental states and bodily activities is however one with which the scientific biologist as such has nothing whatever to do. If he discusses this relation he must desert the field of biology and assume either the rôle of the psychologist or that of the metaphysician. No objection is of course to be raised to such shifting of ground, if it is realised and acknowledged; for all agree that the investigations of the biologists have thrown much light upon the problems of psychology, and in the end this must prove to be helpful to the metaphysician as well. But we surely should protest strongly against the careless change

[1] *Manual of Psychology*, p. 22.

from one point of view to the other; for in so doing even the best of our biologists are constantly tempted to treat consciousness as a *deus ex machina* which can be appealed to whenever they are balked in their attempts to explain specially complex or remarkable types of animal activity.

Biologists, strictly speaking, are students of living forms and, as such, of nothing else: and it is but fair to say that for the most part they maintain this position quite consistently, this being especially true of those who limit their attention to the nature of vegetable life. Like the physicist or chemist, the biologist in the main is content to consider quite objectively the phenomena observed; *i.e.* he studies the facts without reference to any hypothesis as to the relation of consciousness to the changes occurring in the living objects under observation.

In fact he cannot maintain a consistent position unless he deliberately avoids all reference whatever to phenomena of consciousness in the course of his investigations; there is much to be lost, and nothing to be gained, to his science by the abandonment of this attitude. Moreover it will appear in what follows, I think, that if, as a biologist, one persistently maintains such an attitude, he cannot fail to be rewarded when he leaves his special field of work, and joins with the psychologist or with the metaphysician in studying the implications of the notion that consciousness is related to bodily activities.

In the following pages I shall consider some of the results reached in studying the relation of mind and body by one who maintains consistently the attitude proper to the biologist so long as he studies the physical aspects of the problem, assuming the attitude proper to the psychologist only when he turns to the consideration of the psychic aspects.

It is to be acknowledged of course that this is not an altogether easy task, for in truth it is asking a good deal of us poor mortals to demand that we keep out of mind our own thoughts and emotions when we see the higher animals acting in ways familiar to us in our own lives. Nevertheless it appears to be possible for the biological investigator to imagine himself a "spirit," if we may use the term, with such full capacity for scientific observation and analysis as man displays, but without any thought that his observations and analyses are aught else than interesting modifications of his consciousness; without any knowledge that his consciousness is related to any human body; and with no notion whatever that any form of consciousness has any connexion with animal activities. Such a position I shall

ask the reader to maintain throughout the first division of this article.

§ 2. Let us suppose then that such a "spirit" finds himself studying the nature of our little world. He finds, in all that he observes, evidence of what he chooses to call physical and chemical reactions which are displayed in all the separable objects on the earth's surface. But among the vast array of these objects he discovers in a relatively small number certain unique characteristics which lead him to speak of them as being endowed with life.

These living objects at first sight seem very different indeed from non-living objects; yet he finds it often difficult to differentiate living matter in its simplest forms from non-living matter, and sees that there is much evidence of the existence of a deep-lying unity between the two apparently diverse forms, the nature of which unity he is perhaps unable to discover.

We may suppose however that he does not pause to consider this particular problem, but gives his attention to the special qualities of living bodies. When he does so he notes perhaps the fact that living bodies grow; and that under certain conditions they reproduce their kind; *i.e.* out of their very substance appear new living bodies which in form and mode of action are, or eventually become, apparently identical with those from which the newly formed bodies arise.

We may suppose that he at first undertakes to study the nature of growth. If he does so he discovers that although it is a most complex phenomenon as observed in the higher animals, it can all be traced back to reproduction of like kind; for he notes that growth itself seems to consist in the reproduction of new living bodies which he calls cells, and which in form and mode of action appear to be exactly like those cells from which they arise. Upon further thought however he perceives that this exactness of likeness must be an illusion due to the failure of his capacities of observation; for it is evident that as organisms increase in complexity the several parts which grow in accordance with this general law of cell reproduction are immensely different in form, and in mode of action; and he judges that this can only be so because there have been unobservable differences in the newly formed cell parts from the very beginning of the growth of the complex animal.

He thus notes in all living matter the common characteristic that under the proper conditions it may reproduce what he calls its kind: and although he also recognises that from

the highest to the lowest forms of life the exactness of this reproduction must be merely apparent and not real, *i.e.*, that a measure of variation must be assumed to exist in all forms of reproduction; nevertheless he cannot but be impressed with the evidence that a unity of process exists through all the apparent diversity which he at first observed in the forms of living bodies.

§ 3. Our spirit may now be supposed to observe another characteristic of living forms, a characteristic which perhaps first attracts his especial attention when he studies certain living forms of very high complexity, but which he traces back through all the lower forms of life. He observes that if any bit of matter, whether lifeless or alive, receives a stimulus from its environment it reacts upon this stimulus physically or chemically, and in so doing becomes a different thing, being altered either in position or form, or in constitution. In the case of the lifeless body it remains apparently, to all intents and purposes, in its altered condition until other forces act upon it: but in the case of the living body the transformation is not thus relatively permanent; there appears to exist within it a capacity to become again what it was before its reaction to the stimulus: by some inherent process it seems to be able to regain the ability to react again in response to a similar stimulus, and apparently in the same manner as before.

But in pondering over this observation our spirit finds his attention called to certain facts which lead him to question whether the capacity to react in the very same manner ever is exactly regained. For in the first place he notes that living matter as observed in its lowest forms in protoplasmic masses is always "differentially responsive. The nature of the stimulus and the nature of the conditions decide what the nature of the response shall be;"[1] and it appears to him probable that this observable differentiation of response indicates that some alteration is effected in the structure of this simple protoplasmic body at the time of its reaction; and that therefore the form of its future functioning must also be altered, even though he be unable to observe the change. He indeed finds it impossible to believe that the receipt of a stimulus, and the reaction thereto, can leave the body exactly what it was before the reaction; and if its structure does not remain unchanged, then evidently the appearance of renewal of capacity to repeat exactly the same

[1] C. Lloyd Morgan, *Animal Behaviour*, p. 296.

reaction, in response to a recurrent stimulus of the same nature as the first, must be an illusion due to failure of his powers of discrimination.

He is strengthened in this view, when he studies the more complex forms of life, by the observation that although in a large part of their activities a capacity to react a second time in exactly the same way to a recurrent stimulus is apparently exemplified, nevertheless there are many cases, even though they be relatively few, where the organism very plainly does not react to the recurrent stimulus in the second instance in the same way in which it reacted in the first instance. The most marked examples of this change of reaction he chooses to call "learning by experience": and finding that this characteristic is less noticeable where environmental conditions are relatively simple and permanent, and the living bodies are less complex; and more noticeable where the environmental conditions are relatively complex and changeable, and the living bodies are highly complex in their composition; he is led to ask whether it may not be that this "learning by experience" is a characteristic of all living matter, which at times fails to appear as such merely because it is observable in but relatively few cases, and is indiscernible in all others.

He finds it possible to hold, in conformity with this view, that the occasional special emphasis of this characteristic in the more complex living forms is due to the very complexity of their organisation; for he realises that in such cases alterations of reaction to a given stimulus must effect primarily what are only superficial, and relatively unimportant, parts of the complex whole; and that he therefore should not expect these changes in minor parts to affect the reaction of the whole organism observably except under special conditions. He sees indeed that he should expect this very complexity of organisation to prevent, in general, observable changes in a form of reaction; for clearly in such cases the stimulation is likely often to call for incompatible reactions in minor parts which will tend to prevent any appearance of change in the reaction of the whole organism.

Furthermore he observes that when in complex organisms such a balance of diverse tendencies does happen to be overthrown, the result will be more likely to be marked than in cases where the stimulation more directly affects the whole body of the organism; and he thus sees a possible explanation of the marked display of this "learning by experience" after hesitancy and vacillation, as it is observed in the more complex living bodies; and a further reason why it is more distinctly

observable in these more complex living bodies than in the simple ones.

Whether these explanations shall finally prove to be satisfactory or not, he feels on the whole that he is probably correct in his assumption that this "learning by experience" is a capacity inherent in all forms of living matter from the lowest to the highest, and this conclusion enforces his conviction that there must be a unity of process in all the reactions of living matter.

§ 4. We may suppose that our spirit has been led, as we men are led, to draw a distinction between vegetable and animal life. It is true that when he examines the very simplest forms of life he finds difficulty in determining whether they should be classed as animal or vegetable; and this fact emphasises again in his mind the unity of process already observed in all of living matter. Nevertheless the difference between these two forms of life is sufficiently marked in all of the more complex organisms to lead him to make a broad use of the distinction.

He may be supposed further to take greater interest in animal than in vegetable life, and may for this reason feel warranted in devoting his attention almost exclusively to the former. In taking this position he may also choose to lay aside all questions concerning processes of growth and reproduction, which are obviously as marked in the plant as in the animal, and to confine his attention to certain very interesting characteristics of animal life, *viz.*, to what he chooses to call "animal behaviour".

§ 5. Our spirit cannot go far in his study of the varied activities of animals without observing that many distinctions in the nature of these activities, which appear to him at first sight to be clear, are co-ordinate in a great measure with differences in the complexity of the living bodies which he is studying.

When he considers the nature of this complexity he finds that although he may conceive of a perfectly simple living mass, nevertheless as a matter of fact he is entirely unable to discover a living body which does not appear to be really a complex of elements bound together in some mysterious way into a system. The system, whether relatively simple or enormously complex, is composed of what he chooses to call elements. These however are not isolated bits of living matter; they are what they are because they are elemental parts of a system: and the system is what it is because it is,

as it were, composed, of these elemental parts;—because these elemental parts are so bound together that the activity of any one element must necessarily affect the activity of the mass itself, and also directly or indirectly the activity of all other elements of the system. Indeed it is the marked characteristic of these elements that they display a capacity to initiate in themselves activities which result in modifications of action in the whole system to which they belong.

If he considers the behaviour of any animal, and views the activity of its system as a whole, he finds himself compelled to look upon it as a pulse of activity of the whole mass, in which the activity of some elementary part or parts is exceptionally noticeable, but for all that not separated away from that of the whole mass. The activity of the system as a whole is in fact merely differentiated in form by this special activity of the part.

Our spirit further notes that in all but the very lowest forms of animal life the whole system bears evidence of being really a system of minor systems, in which each of the major elements of the whole system, as it appears when first viewed, is really a minor system of elements. Each part of the animal's body he finds to be a special minor system; which minor system is co-ordinated with other minor systems to form a whole larger system. And he perceives that in the more complex animal forms, which he chooses to call the "higher," this binding together of systems within systems, as they are themselves co-ordinated into one great system, is enormously intricate.

In all these observations he again sees evidences of a unity of process in the nature of life as exemplified in those animal activities to which he has chosen to restrict his attention: and furthermore begins to suspect that this systemic complexity may serve to explain in great measure the occurrence of those apparently divergent special activities which at first seemed to him to stand so distinctly in opposition to that unity of process so emphasised in the course of his earlier studies.

§ 6. In studying animal life as a whole we may imagine that our spirit has thus far carried on his investigations in some region, say in the interior of Africa, where human civilisation could not attract his attention. He may be supposed to have observed men, and to have considered them as forms of animal life in which social tendencies are noticeable; but it is probable that he would find himself interested in men principally because they display the complexity of high

organisation in forms which he can most easily study. He would however see no special reason for separating men in classification from all the rest of animal life; and indeed would probably be inclined to think that were his own powers of observation sufficiently microscopic he might find the study of the social life of the ants and bees more interesting than that of men whom he has seen only under barbaric conditions.

If however by chance he happens some day to turn, let us say, to the Western coast of the Continent of Europe he at once finds his attention riveted upon this special animal man, which under the conditions in which he now observes him shows not only most distinctly the capacities which he has found of greatest interest in his general investigations of animal life, but also what appear to be entirely new developments of these capacities.

Evidently he undertakes the study of civilised man with the notion firmly fixed in mind that in all animal activities hitherto studied there exists a unity of process. But the activities which man displays in his most fully developed social life are apparently so very diverse in character that he feels bound to consider again whether this apparent diversity is compatible with the conclusions previously reached.

In undertaking this investigation he recalls his observation that the complex animals are systems of systems, and notes that in man this complexity of systemic co-ordination is observed in the very highest degree. And at this point perhaps he finds himself studying especially the action of the nervous system of man which he finds to be the immediate source of the activities of the human body.

§ 7. Looking upon this nervous system as a system of systems of great complexity, our spirit recalls his conclusion, previously reached, that no reaction in any part of a system of systems can fail to modify in some measure the total pulse of activity in the whole system of systems. But he notes at once a fact which is apparently incompatible with this conclusion: for he finds that certain reactions in parts of a man's body, and which he chooses to call "reflex actions," do not seem to affect at all the pulse of activity of the whole system of systems. This difficulty is speedily cleared away however when he observes that in many cases which he is able to study exhaustively, the minor system which controls these "reflex actions" is almost completely disconnected from the mass of the system of systems, and he judges that for this reason the activity of such a minor system can probably only

occasionally, and under special conditions, affect the whole pulse of activity of the system of systems sufficiently to produce in it observable effects; and this, if true, serves to account for the apparent incompatibility here considered.

He sees also in this connexion that under certain conditions of activity in the system of systems as a whole, there will be involved a practical disconnexion, or "splitting off," from the main system of systems, of certain minor systems which are usually part and parcel of the complex system as a whole; and this for the simple reason that the rhythm of activity in the great system of systems is likely at times to be incommensurable, if we may so speak, with that in the minor system which is thus "split off". He is thus enabled to understand how it happens that certain stimulations of a part, which usually produce reactions of the whole system, at times produce no apparent reaction of the whole system whatever, but only reaction in the special part which is immediately stimulated.

§ 8. If then our spirit turns his attention to the complex system of systems observed in man's nervous structure when viewed as a whole, he finds certain minor systems α, the activities in which are directly related to stimulations reaching the body of the man from its environment. Again he finds other minor systems γ, the activities in which are directly related to reactions of the man's body upon its environment. And then he notes further a highly complex system of minor systems β, the activities in which seem to be related to the co-ordination of the activities in the receptive minor systems (α) so that they bring about the activities which he notes in the reactive minor systems (β) (see figure 1 below, p. 490).

He thus perceives that, in such a complex animal as man, what is really a unity of process must, if superficially viewed, appear, as it has at first appeared to him, as specially marked differences of process: and he is thus confirmed in his view that in all these neural activities whether simple or complex a unity of process is maintained;—that in all parts of the complex system of systems the form of activity is the same;—that all along the line from the activities related to stimulation from the environment, to those related to reactions upon the environment, in each part successively active, stimulation and reaction occur in one and the same act.

He sees furthermore that although time is required for the spread of the influence of a special activity arising in systems α, through systems β, until they result in activities in

systems γ, still there is no ground in this for questioning the unity of process: in other words he becomes convinced that the apparent differences in form between the activities in systems α and β and γ are due to the fact that in observing any one of them he is viewing but a part of the whole pulse of activity in the system of systems, and not this pulse of activity as a whole.

But he sees that if he is to take a broad view he must of necessity consider this whole pulse of activity in the whole system of systems; and this he pictures to himself perhaps as the complex vibration of a sensitive elastic mass the surface of which is disturbed by ever-varying waves producing at each special moment what he chooses to call a special "neurergic[1] pattern". These "neurergic patterns" he sees must vary in form, from moment to moment, as the result of the appearance of special activities in special elements of the complex neural system.

He notes also that the emphasis of activity at any moment may come either from minor systems α, or from minor systems β, or from minor systems γ. He perceives it is true that the most emphatic elements are usually those which come from systems α, but this does not lead him to judge that the form of the "neurergic pattern" of any special moment is entirely due, either directly or indirectly, to the activities in systems α, which though emphatic are in fact less broad in their influence upon the form of the "neurergic pattern" than the activities in the highly complex systems β.

He notes also that the complex systems γ are connected with certain activities of special minor systems of the α variety which, arising in connexion with the activities in systems γ, react upon systems β; and he notes that these γ-α activities, as he chooses to call them, produce a marked influence upon the "neurergic pattern" of the moment when the γ activities are predominant, *i.e.* of the moment of reaction upon the environment. This fact however does not lead him to abandon the notion that the form of the total pulse of activity in the whole system of systems at any moment is due as well to the influence of the activities in the β and γ systems as it is to those in the α systems. In other words although a careless view might lead him to say that the form of the "neurergic pattern" at any moment is determined alone by activities of the α or γ-α orders, or by the derivatives of these

[1] There seems to be no word in current use signifiying "pertaining to the activity of nerve". "Neural" means "pertaining to nerve": and "neurotic" has come to connote morbid activity. The reader will therefore pardon me for coining a word to meet my needs.

activities, yet he sees upon second thought that such a view cannot be correct. While he agrees that these α and γ-α activities in a great number of cases give the emphatic form to the "neurergic pattern" of the moment, he is led to hold that all the activities from α to β, and from β to γ, and from γ-α to β again, have at each special moment their influence upon the form of the whole "neurergic pattern" as it appears in the pulse of activity of the whole system of systems.

§ 9. When our spirit considers the form of the "neurergic pattern" as a whole, from another point of view, he sees that at any moment the activity of the whole system of systems must usually show a phase of general activity in the mass of the great system, with a certain increment of activity appearing in some more or less complex part. In other words, if he observes at any chosen moment the whole pulse of activity, he discovers some more or less complex elemental activity which accrues as it were as an increment to the less emphatic activities taken as a whole, and which being predominant in efficiency tends to give distinctive form to the "neurergic pattern" of the moment. This our spirit may be supposed to symbolise as in figure 1 below (p. 490), where for his present purpose P may be made to represent the increment to the activities of the whole complex system made up of minor systems α, β, and γ.[1]

§ 10. Our spirit sees further that in certain cases there must exist "neurergic patterns" of a still more complex form, in which the increment to the general pulse of activity must itself consist of the activity of a large minor system of systems: and he sees that often this minor system of systems, the activities of which form the increment to the whole pulse of activity, must itself display the general characteristics of the whole pulse of activities: *i.e.* that the activity of this minor system of systems must itself appear as a mass of relatively unemphatic activities to which the activity of some special element of this minor system of systems appears as an increment. This he may be supposed to symbolise as in figure 2 below (p. 492) where for his present purpose the darker portions represent the complex increment to the whole mass of activities, which increment itself appears as a mass $([Q-P]+R+S+T+U+V+W+X+Y+Z)$ to which P appears as an increment of a second order, so to speak.

[1] *Cf.* my article *Consciousness, Self-Consciousness and the Self*, MIND *N.S.*, 37, p. 104 ff.

§ 11. Our spirit notes moreover that the increment to the whole pulse of activities is aroused by minor activities which come from diverse sources, from moment to moment; and he looks upon it as natural therefore that he finds himself thinking of the activity of the increment as in its very essence ever variable. And on the other hand he sees that although the activity of the mass to which this increment accrues must necessarily also be changing in form in numberless particulars, as the result of variation in the activities of the countless elements of which it is composed; nevertheless, inasmuch as these variations are undifferentiable and unobservable, the mass itself to which the increment accrues, must usually appear to be in the main relatively permanent in form and constitution.

In all these observations our spirit has found accumulated evidence of a unity of process in the activities of man's nervous system, and at the same time has discovered how it happened that in viewing the action of parts of the whole system he was at first led to assume the occurrence of diverse activities in one and the same system due to diverse processes.

§ 12. Our spirit may now be supposed to turn his attention to certain other marked differences of activity than those above considered, which he observes in man and also in animals lower in the scale, and to ask whether they also are explicable in terms of the unity of process thus emphasised in his studies.

He notices for instance in some cases immediacy of reaction to a stimulus, and in others a marked hesitancy. This he is able to account for by the fact that in the one case the stimulus calls for little else than one series of reactions in its course from minor systems α to β and to γ: while in the other case, in consequence of the unusual nature of the stimulus, and the extreme complexity of the systems stimulated, the original stimulation arouses diverse and to some extent incompatible series of activities in β which must be co-ordinated before a resultant form can be given to the activities in γ.

§ 13. Our spirit notes further, and in man especially, the marked change in the forms of reaction already referred to, and which he calls adaptation. Under certain conditions of stimulation he sees what appear as trial of one form of activity with failure, then of another with success, and a persistence of the successful form of activity in cases of

future stimulation of the same general nature. He finds no reason to draw any line between man and the other animals in connexion with these observations, merely noting that this special characteristic is more marked in highly developed man than it is in the other animals.

And when he asks himself whether this special characteristic is compatable with his notion of the unity of process in animal activities, he sees at once that he has here merely a marked case, exemplified in a whole complex organism, of that "learning by experience" which he has become convinced must occur in all the lowest forms of elemental life, as well as in all the higher forms.

He is led then however to ask why man as an organism does not show this characteristic in all of his activities; and why some animals as wholes show it at times in marked form, others in very minor degree, and some apparently not at all.

To this question he may feel that he is unable to make a thoroughly clear and satisfactory answer: but he believes he sees evidence that the difference between evident adaptation of this kind, and apparent non-adaptation, may be due merely to his own incapacity to observe with precision. He perceives that an activity once aroused in a part will tend to persist, and that a "neurergic pattern," once given in a system, will tend to recur when properly stimulated, until its form is disturbed; and it suggests itself to him that the apparent absences of adaptation which he is considering may be due largely to this fact. For he notes that the self-evident adaptations through error to success are observed most often in the most complex forms, which he may assume have gained no *quasi* permanent "neurergic pattern" before the appropriate adaptative activity supervenes, but which may gain such a typical "neurergic pattern" when the appropriate activity has once been aroused. He notes that after all the most marked of these evident adaptations of the whole organism are but superficial; that the "ground swell," if he may so speak, of the "neurergic pattern" is not greatly altered by them: and he judges that this tendency to the recurrence of the ground swell in the "neurergic pattern" is universal in all animal life: and that it becomes a more important feature of life, as life becomes more complex, so that when it fails to recur the disturbance of the system must be important and therefore more noticeable.

§ 14. At all events our spirit does not feel that these observations in any way warrant him in drawing a line between

some animals and others,—between man and other animals —on the basis of this distinction: nor does he see any reason why he should on this ground allow his conviction concerning the unity of process in animal activities to be shaken in any respect. For he sees that the basis of the adaptation of the activity of a complex system of systems to new conditions must always lie in the emphasis of some partial activity in some minor system of the great system of systems: and that the capacity to effect this emphasis of a partial activity is one which inheres in all systems, whether relatively simple or complex, and that when effective it must give rise to a variation from the reaction which he has looked upon as typical. And he sees that although this capacity may be more or less marked in different animals, and in some may appear to be entirely absent; yet in truth this appearance must be due to the failure of his capacities of observation.

Indeed, when he considers even the most baffling cases where there is hesitancy before action, and trial and error, and then trial with success, he perceives that the basis of the final successful adaptation must here also be the same emphasis of some partial, more or less complex, element in the system of systems under observation.

§ 15. Our spirit is led to note here also in passing that in marked cases of hesitancy, and trial and error, and then trial and success, the final adjustment of the "neurergic pattern," which results in accommodation to new conditions, must often be due to some unobservable influence given from within the mass of the system of systems: for often in such cases he is not only unable to discover, but is even unable to imagine, any change in the conditions of environmental stimulation to account for the break down of the hesitancy and the establishment of the new trend of activity.

II.

§ 16. We have passed in review, in the sections preceding this, merely such of the observations of our spirit as serve our purpose. But it will be seen that throughout the investigations thus described he has held a position quite appropriate to the scientific biologist. For it is to be noted that he has reached his conclusions without any thought of the existence of consciousness in connexion with the activities examined.

We may now assume that he suddenly, and for the first time, discovers the startling fact that his own mental states are in some way related to a human body:—that certain peculiar

modifications of his consciousness are in some manner, and in some measure, coincident with the occurrence of certain stimulations reaching this human body, or with its reactions upon its environment. How this knowledge would be borne in upon him we need not stop to inquire, but we may assume that the coincidences thus noted are so numerous that he becomes convinced that his mind has a body, if we may suppose him to speak in the language we are accustomed to use.

We may suppose also that for the moment he makes no deductions from the facts before him in relation to the presence of consciousness in connexion with the activities of other men or animals, but concerns himself merely with the facts just noted, which are of extraordinary interest to him, and which he still views merely as phenomena of his consciousness. He takes up thus, quite naturally under the conditions, the rôle of the introspective psychologist, as we say, and without such difficulty as we poor mortals find in assuming this mental attitude. For when we turn to introspection we must limit our thought quite unnaturally: we find ourselves handicapped by the fact that since early childhood we have been constantly interpreting the activities of other men altogether, and of animals more or less completely, in terms of our own conscious experience; and we find it difficult therefore to consider our mental life as having any meaning apart from this interpretation.

But our spirit is troubled in no such way. He must be supposed to have realised always that the objects he has been studying are modifications of his conscious experience; or, to put it in another way, he cannot be supposed to have had any notion whatever, up to this moment, that they could be aught else than such modifications of his consciousness.

Such is the attitude of mind which the introspectionist strives to attain;—and it is, as we have said, an attitude quite natural to our spirit before he has noted the probability that other animals, and other men in particular, are conscious as well as he. Let us assume therefore that for a time he maintains this ignorance of other consciousnesses than his own, and let us attempt to picture the probable course of his thought under such conditions.

He would at the very start be likely to inquire as to the real meaning of this fact which he describes by saying that he finds his mind has a body;—to ask what he is really thinking when he says that the activities of this special human body which has come to interest him have some peculiar relation to his consciousness.

§ 17. "This human body," we hear him say, "which seems to be related in some intimate way to my consciousness is in the first place only one particular example of the increments (or perhaps he calls them presentations) which are constantly appearing in my consciousness in attention. It is, beyond that, of all such increments but one of a special class which I am accustomed to call objects. And of all objects this human body is a particular one observed in connexion with that special object, the world, which I have been studying. All of these observations of mine concerning these objects in the world have been special forms of my conscious experience:—special forms of what I describe as types of reflexion."

"In cases of reflexion I always note an increment" (or as we have seen he may chance to call it a presentation) "to a something else of consciousness. The implications of this observation of duality I shall at present pass over; I choose for the time to concentrate my attention upon these increments or presentations."

"All of these increments, I note, possess certain qualities which are in some measure noticeable in them: they must one and all have, for instance, some measure of intensity, and some measure of realness, to go no further."

"But beyond these general qualities, as I shall call them, I note also that many of these increments or presentations seem to display special qualities which are not common to all: in other words there are certain qualities which are observable in some but not in all of these increments. Some of these special qualities appear to be of more general occurrence than others. Among these special qualities which belong to a great mass of increments or presentations, and yet not to all, I note one which I choose to call the spatial quality. This is the quality which leads me under certain conditions to describe those presentations in which it appears 'as objects in the outer world'. Not pausing to consider this fact further, nor to analyse the experience it involves, I shall keep my attention for the time being upon the nature of this spatial experience."

"If I do so I note, as I have said, that a vast mass of these increments or presentations in my consciousness have this spatial quality, *i.e.* are 'objects in the outer world'. But some increments clearly have not this quality, that is some of them are non-spatial: such for instance are my ordinary thoughts, and emotions, and my pleasure-pain experiences. Now this object which I call my body is a special one of these spatial presentations, it is a special 'object in the outer

world'; and the activity of the nerve systems to which I have been giving so much attention, and which I see must belong to this body of mine, is also a special 'object in the outer world,' *i.e.* it is also a special spatial increment or presentation in my consciousness. It is this 'activity in my body's nervous system,'—this special *spatial* presentation or increment,—that I perceive to be in some measure and in some manner co-ordinate with modifications of my *non-spatial* presentative or incremental field of conscious experience."

"Let me bring out clearly by an example," we hear him say, "the facts which attract my attention to this relation. I have a certain spatial presentative experience of an 'object in the outer world' which I call a sharp-pointed pin; and this is presented as approaching what is another 'object in the outer world' held in the same presentation, and which latter I call the finger of this human body. When in this complex presentation the pin touches this finger I experience not only the complex spatial presentation of the two objects in contact, but also what I may speak of as a streak upon the surface of the stream of consciousness, and which I call a painful pricking sensation; and this is a non-spatial presentation, it is not an 'object in the outer world'."

"I observe so many striking facts of this kind, and the evidences of the relation thus suggested are so many, that I am led to assume for the moment an hypothesis which I shall call 'parallelism' and which I shall presently try to state to myself with clearness."

"For the present, at least, I shall not consider the fundamental nature of the relation just spoken of at all; it will suffice me to ask whether it is true that this parallelism exists; for if it does exist I imagine I may possibly gain some interesting knowledge concerning the nature of consciousness itself by considering the facts suggested by such an hypothesis. It is clear that the pointed pin touching my hand involves the stimulation to activity of certain nerves in the hand, and this spatial presentation which I call 'action of nerve' is relatively easy to investigate in certain directions in the field of attention, while my non-spatial presentations and their relations are exceedingly difficult to investigate. If I find that I can establish any relation of coincidence between my non-spatial presentative experiences and these spatial objects which I call 'actions of nerve,' I may well hope to obtain some help in my study of the nature of the processes in non-spatial experience by examining the laws of nerve action."

§ 18. "I may state this hypothesis of parallelism," we hear him say, "in the following form. If I think at all of the relation between the action of nerve in my body and my non-spatial presentations I cannot, under this hypothesis, assume the occurrence of a non-spatial modification of presentation without also assuming the existence of a coincident 'action of nerve' in my body."

"I perceive at once that logically I should expect to be able to assert the reverse of this proposition, *i.e.* I ought also to contend that I cannot assume any action of nerve in my body without assuming also a coincident modification of my non-spatial presentative experience. This second hypothesis however does not at first sight appear to be so thoroughly corroborated by the evidence at hand, and I shall therefore waive its consideration for the present and consider only the first one stated."[1]

§ 19. Having described the thought of our spirit thus far in terms of his own introspection let us for convenience in what follows indicate the probable course of his consideration in our own language.

Having assumed this hypothesis, our introspective psychologist, for such he has now become, would without doubt at the start examine the non-spatial field of presentation to see whether any of the characteristics of the actions of nerve which he has observed in his studies are also found in his experience of non-spatial presentations.

His thought naturally at once recurs to the unity of process in nerve action which has been impressed upon him during his earlier studies. But when he looks at the non-spatial order of presentational experience he fails at the first glance to see any indication of a corresponding unity of process in consciousness; for he finds there increments which appear to be of the most diverse form, *e.g.* Sensations, Instinct-feelings and Emotions, Desires, Impulses and Conative states in general, and Precepts and Concepts which appear in the flow of thought.

[1] I agree most fully with the main drift of Dr. James Ward's powerful arraignment of the assumptions involved in the statements made by *the majority* of those who uphold the doctrine of parallelism, as we find it in his *Naturalism and Agnosticism*. Nevertheless I cannot feel that he has done full justice to many who use the hypothesis quite legimately for working purposes. Nor does his argument seem to me to touch the theory as above formulated. Unfortunately he leaves in the mind of the reader the impression that in his opinion no form of this hypothesis has any value whatever: a view which of course he could not successfully maintain, and which he evidently cannot mean to imply.

But presently he recalls his previous observation that man's nervous system is really a complex system of neural systems; and he considers that if his hypothesis of parallelism is correct his consciousness must in like manner be a complex system of psychic systems. And when he asks whether such a supposition throws any light upon his difficulty, he at once sees that an explanation of the apparent diversities in conscious process which he notes may be due to the fact that when he observes these apparent divergencies he is considering different portions of the great pulse of activity of the psychic system of systems in which the unity of process should be expected to appear, and that in such partial observation he may be deceived by contrasts which for one reason or another are given in such a view.

When he turns to the more careful study of consciousness, as a system of psychic systems as a whole, he at once perceives that he observes in his conscious experience, within the total system of psychic systems, complex minor psychic systems A, which relate to the reception of stimuli from his environment; and also other complex minor psychic systems Γ, which relate to his expressive reaction upon the environment; and also certain vastly more complex, but for all that minor psychic systems B, relating to the co-ordination of systems α and Γ.

The A systems give him his sensations; grading off into the B systems in which he notes perceptions, conceptions, thoughts, and reasoning; and these again grading off into the Γ systems in which he notes the conative states, the emotions and instinct-feelings in general, the desires, impulses, and finally his voluntary acts.

Now evidently these psychic A, B and Γ minor systems correspond exactly with the minor neural systems α, β and γ which he observed when examining the nature of neural activities (see § 8 above). He is led therefore to look further, and in doing so finds further correspondences of great interest. For he notes that at times psychic systems A and at times B and at other times Γ are centres of conscious activity; and that in each case there is an alteration of the nature of the presentative experience taken as a whole, which he chooses to picture as a "noëtic pattern," corresponding with the "neurergic pattern" which he viewed in his study of neural activity (see § 8 above). He notes also that when any one of these minor psychic systems becomes a centre of presentative activity it alters the nature of the "noëtic pattern" of the moment, in a manner quite comparable with the alteration of what he has called the "neurergic pattern" in the

whole system of neural systems, occasioned by an emphatic activity in any of the minor neural systems α, β or γ.

He sees therefore that notwithstanding these special emphases he must, in any broad view, consider the "noëtic pattern" as a whole pulse of psychic activity, and these especially vivid presentations merely as partial psychic activities which for the moment are especially emphatic. And he thus sees how what may really be a unity of psychic process, in a complex psychic system of systems, may appear at the first glance to be a diversity of process; this apparent diversity being occasioned by the pre-eminent activity, for the time being, of some such minor psychic systems as A or B or Γ.

§ 20. Taking another step our spirit observes a further correspondence between the activities in the neural and the psychic systems: for he finds that the Γ process in emotion, and in conative actions in general, in affecting the "noëtic pattern" of the moment appears to be most powerful not in itself but rather through a subsidiary A-like process of sensation closely related to the Γ process: even as he found the activity of the γ minor neural system producing its effective modification of the "neurergic pattern" of the moment through the activity of a subsidiary α-like minor system closely related to the γ minor system (see end of § 8 above).[1]

In the light of his studies of neural action however he sees that the above observations cannot blind him to the fact that in viewing the activity of the complex psychic system of systems he must consider that the "noëtic pattern" taken as a whole must at any moment be modified by all the psychic activities in all of the minor psychic systems, whether these be in A, or B, or Γ, or in the intermediaries between A and B, or between B and Γ, or in the subsidiary A-like systems which affect B in connexion with the activities in Γ.[2]

§ 21. If now our spirit considers from another point of view the pulse of psychic activity as a whole, he finds that

[1] The reader will of course recognise this observation as the foundation of the famous James-Lange "back stroke" theory of the emotions, and of various modern theories of the will.

[2] *Cf.* my definition of Emotion in my *Instinct and Reason*, p. 125. The view here maintained is of course in opposition to the one commonly held in our day, that (as Prof. Lloyd Morgan puts it, *op. cit.*, p. 100) "the data for consciousness are in all cases supplied through afferent channels".

in some very exceptional cases consciousness appears to be what he may describe as mere experience and naught else. In a vast majority of cases, however, consciousness in reflexion appears as a mass of undifferentiated psychic activity over against which stands an increment of a partial psychic activity of more or less simple form. And this he notes corresponds with the nature of the activity in the whole neural system of systems (see § 9 above).

This observation seems to throw a flood of light upon the nature of presentation itself, the examination of which he waived in his earlier study of this hypothesis. For he notes that the increment of activity in the neural system of systems corresponds with what appears in reflexion as the presentation to that part of consciousness which he conceives of as his Self; and observing that this Self is of consciousness, and yet is an undifferentiable psychic mass, if he may so

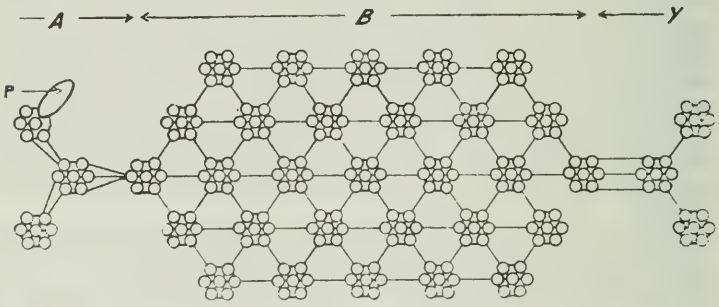

FIG. 1.

speak, he judges that this Self is nothing more or less than the sum total of undifferentiable psychic activities in the system of psychic systems, coincident with the mass of neural activities to which the partial neural increment accrues, and in contrast with which it appears to be emphatic The Self he concludes therefore can never appear in consciousness as an increment or presentation; and this, for the simple reason that it is itself always that mass of undifferentiable psychic activity, in the whole mass of the psychic system of systems, to which the presentation accrues as an increment.

The nature of the complex psychic system of systems A, B and Γ he represents to himself according to the diagram given in figure 1.

Here A represents the receptive minor psychic systems, Γ the reactive minor psychic systems, and B the minor psychic

systems concerned in the co-ordination of the A and Γ minor psychic systems.

The whole figure represents the conscious experience of a moment of sensational experience; P representing the sensational increment or presentation, and $[A-P]+B+\Gamma$ representing the Self.

Our spirit notes furthermore that as the mass of neural activities, although really variable in minor degrees, appears to be relatively permanent (see § 11 above); so the psychic coincident activities should appear; and he notes here a distinct corroboration of his view in the fact that the Self has this appearance of permanence when viewed in relation to the evidently variable nature of the increments to the Self.

§ 22. Our spirit sees also that if any semblance of the Self did appear as a presentation it would in that fact be no longer of the Self, but would be what he chooses to call an "empirical ego," and as such a true increment or presentation to the Self.

And here he notes that he discerns in consciousness just such presentations of an empirical ego; and in what he calls states of "self-consciousness" experiences this empirical ego to which a presentation is given,—to which an increment accrues. And he is reminded that here too he finds a correspondence with the activity of the neural system; for he has seen in his previous observations (see § 10) that the increment of neural activity in the total pulse of neural activity may be due to an emphatic activity in a whole minor system of systems: that the mass of these minor activities may be undifferentiable in form, and yet within them some partial activity may be so emphasised as to appear as an increment to the wide mass of the activities in this minor system of systems. He sees thus that in such cases both the minor system of systems, and the increment to this minor system of systems, will together form an increment, of another order, so to speak, to the mass of neural activity as a whole; and he thus sees a distinct correspondence with the case in consciousness where to the unpresentable Self accrues an increment, which increment itself appears as an empirical ego to which accrues an increment of a lower order.[1]

The nature of this experience of "self-consciousness," in which appears an empirical ego, and a presentation to the

[1] Cf. my "Consciousness, Self-Consciousness and the Self," MIND, N.S., No. 37.

empirical ego, he represents to himself according to the diagram given in figure 2.

The darker portions here represent the increment to the Self.

The Self is represented by $[B-(T+U+V+W+X+Y+Z)]+\Gamma$.

The increment to the Self is represented by $Q+R+S+T+U+V+W+X+Y+Z$.

This increment to the Self consists of the empirical ego, $[Q-P]+R+S+T+U+V+W+X+Y+Z$; and the increment to this empirical ego; which latter increment is represented by P.

§ 23. In the studies referred to in the last section our spirit has found his attention diverted from the question which he

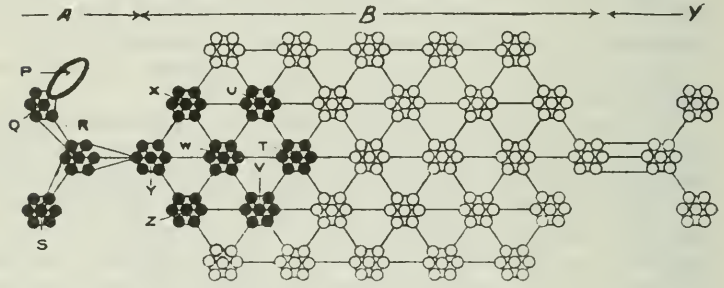

FIG. 2.

at first set himself to answer: *viz.*, whether there is a unity of process in consciousness, corresponding with the unity of process which he found so emphasised in the activities of animals. In recurring to this question he now recalls that he found marked distinctions in the realms of conscious experience which at first seemed to be altogether incompatible with such a notion, but he observes that his further study has tended to convince him that these distinctions are due to his having at first taken a view of parts of his psychic activities only, and not of the whole pulse of active consciousness.

He is tempted therefore to consider this question more in detail, and at the start asks whether this notion of the unity of conscious process, in coincidence with the unity of neural process, is compatible with the patent fact that some activities of his body as a whole do not seem to be coincident with any modifications of his consciousness whatever, although these apparently "unconscious" activities appear to

him to be just as important as others which are coincident with very distinct modifications of consciousness.

His studies in this direction at first tend to show that a special part, *viz.*, the brain, is alone the seat of the activities in his body which are the coincidents of modifications of his consciousness; for the mass of those activities in his body which are marked, and which nevertheless do not appear to be related to his consciousness, seem to be connected with minor neural systems which are more or less completely separated from the brain system. This view is strengthened when he notes that, as in the great neural system of systems the activity of certain minor neural systems may under certain conditions be temporarily "split off," as it were, from participation in the whole pulse of activities which determines the "neurergic pattern" of the moment, in the total neural system of systems; so he also finds that under certain conditions minor psychic systems, which he at first sight thinks ought to affect consciousness, seem to be in like manner "split off" from participation in the total pulse of psychic activity which determines for him the "noëtic pattern" of the moment of presentative experience.

Such a conclusion in relation to the brain does not however seem to him to be eminently satisfactory, for the simple reason that he finds many marked activities which seem to be very clearly connected with brain activities which also often fail to correspond with any discernible modifications of consciousness.

He finds himself wondering therefore whether here also he may not be erring in his conclusions as the result of over-looking certain modifications of consciousness which are relatively unemphatic: and looking back to the conclusions he has reached as to the nature of the Self he is led to ask whether these psychic activities which he fails to observe may not possibly have become absorbed in, may not have become part and parcel of, that undifferentiable psychic mass which he has come to identify with his Self.

§ 24. In this connexion our spirit finds himself turning back to consider again the hypothesis which he passed over in his observations recorded in § 18 regarding the hypothesis of parallelism; he asks whether it will not be possible to explain the facts which thus baffle him if he finds it true, as there suggested, that he cannot assume any action of nerve in his body without assuming also a coincident psychic modification.

The course of his thought in this direction we have not

space to follow: suffice it to note that he concludes in the end that there is much ground for upholding this hypothesis and that if it is valid it involves a further emphasis of that unity of process in consciousness of which he has observed so much evidence in his previous studies.

He is led to assume that there is some modification of psychic life in connexion with all action of nerve, and this he chooses to speak of as "mentality". He holds that with the activities in all nerve systems which are connected, there must always be coincident a system of mentalities which under certain conditions becomes what we men call a consciousness. Consciousness as experienced by man is under this view a vast system of psychic systems.

"These other individual men whom I see and the animals by which I am surrounded," he says, "have more or less complex systems, neural and psychic, which are entirely disconnected from mine and from each other. I myself," he continues, "am one of such separate animal and psychic individuals. So also in my body, which is that of an individual man, there are certain minor neural systems which are practically disconnected from the great system of neural systems which expresses itself in many ways, but pre-eminently in speech, and which has corresponding with its activity all the psychic processes which I usually speak of as my consciousness,—as my empirical ego and the presentations to that ego. These minor neural systems must be supposed to involve coincident minor systems of mentality, if not of consciousness; and as the other disconnected individual man indicated to me the existence of his consciousness by certain so-called expressive actions without directly affecting my consciousness, so these practically disconnected parts of my body express themselves in actions which we call 'reflexes,' and which we are wont to think of as unconscious. At times nevertheless these practically disconnected systems do affect appreciably the main system of systems; and furthermore at times, as we have seen, certain minor systems within the great system of systems are for one reason or other 'split off' from the main systems of systems, and in such cases the activities in these minor neural systems which ordinarily affect the pulse of the whole neural system do so no longer, while correspondingly their psychic coincidents which usually affect what I call my consciousness affect it no longer."

"I thus see how it is possible to maintain the unity of the process in consciousness which seemed at first sight to be scarcely compatible with the evident existence of activities in parts of my nervous system which appear not to affect

consciousness at all. As for the vast mass of those activities in the thoroughly connected diverse parts of the neural system of systems whose assumed psychic coincidents at first sight do not appear to modify consciousness, I have already come to see that they probably do affect consciousness, but not sufficiently to induce presentations in reflexion: *i.e.* that they form part and parcel of that vast undifferentiable psychic mass which I call my Self, to which in reflexion the more emphatically active psychic elements appear as increments." [1]

III.

§ 25. Apart from the aid given to both neurologists and psychologists, in the formulation of their general conceptions, it appears to me that in assuming thus in turn the attitudes of the ideal biologist, and of the ideal introspective psychologist, much light is thrown upon a number of problems familiar to both sets of investigators, and in closing this article I shall ask the reader to consider briefly a few of the questions of current interest to which these studies seem to apply with especial force.

It has appeared clear to us that we are compelled to assume a unity of process in all of animal activities as well as in all of the complex phases of our conscious life: and it is interesting to consider how far it is possible under this assumption to maintain certain distinctions which are commonly made in our day.

Let us begin with the generally accepted distinction between reflex and instinctive activities. Mr. C. Lloyd Morgan who realises as fully as any living biological writer the "besetting sin" referred to in the opening paragraph of this article, tells us in his latest work [2] that "whereas a reflex act is a restricted and localised response, involving a particular organ or a definite group of muscles, and is initiated by a more or less specialised external stimulus, instinctive behaviour is a response of the animal as a whole, and involves the co-operation of several organs and of many groups of muscles".

It may be that biologists will follow Mr. Morgan in this use of terms in every-day anecdotal descriptions of animal behaviour; but I submit that, if we look upon the nervous system of man as a complex system of systems, it appears at once that the distinction is not a fundamental one; and that it should in no manner blind us to the fact that instincts as objectively viewed are in Mr. Spencer's phrase nothing

[1] *Cf.* my *Instinct and Reason*, pp. 19-67.

[2] *Animal Behaviour*, p. 70.

more than "compound reflex actions": and in fact it is but fair to say that Mr. Morgan himself practically admits as much in saying, as he does, "that there are cases in which the distinction can hardly be maintained".[1]

I cannot give space[2] in this article to any fuller discussion of this special distinction than is implied in what I have said above in §§ 7 and 23; but it surely is important to fix the above conclusion in our minds, for it clearly has an important bearing upon the matters to be considered below in conjunction with the fact that instinctive activities are acknowledged to involve often very distinct modifications of consciousness, while reflex actions are very generally supposed not to do so.

§ 26. If now we consider the difference between Habit and Instinct, which Prof. Morgan has made so prominent in his valuable works, we see reason here also to hold that the distinction is not a fundamental one. We may "define instinctive behaviour," says Prof. Morgan, "as comprising those complex groups of co-ordinated acts which are, on their first occurrence, independent of experience".[3] On the other hand "behaviour which has become mechanised in the course of individual life"[4] he described as due to habit. Now I do not question the interest connected with the observation of the changes in instinctive activities occasioned by experience during life; in fact I feel that Prof. Morgan has rendered very great service in differentiating what he would call the instincts from what he would call the habits, for this purpose. But on the other hand I hold that we must not let this interesting practical distinction lead us to assume that the difference referred to is of a fundamental character, or that it involves a diversity of process in the two sets of activities.

Habits, as I have elsewhere said,[5] may justly be called

[1] *Op. cit.*, p. 71.

[2] I may note that Mr. Morgan's remark (*op. cit.*, p. 70) that "reflex acts are local responses of the congenital type due to specialised stimuli, while instinctive activities are matters of more general behaviour usually involving a larger measure of central co-ordination" seems to me to involve less grounds for the distinction noted than the definition quoted in the body of this article.

[3] *Op. cit.*, p. 71. [4] *Op. cit.*, p. 66.

[5] *Instinct and Reason*, p. 70. I am glad to have this opportunity to refer to Prof. Morgan's appreciated criticism of my definition of "instinct" as printed in my *Instinct and Reason*. My definition to which he refers on p. 68 of his *Animal Behavior* is found in what is evidently but a preliminary chapter; and my conception of the nature of instinct as above outlined is fully developed only in the course of a number of

pseudo-instincts; and Wundt seems to me nearer to the truth than Prof. Morgan will allow,[1] in calling habits "acquired instincts". For in order to make the distinction fundamental we are compelled in the first place to assume, as Prof. Morgan constantly does, that there is no such thing as pre-natal experience,—no modification of inherited trends of activity by the influences which reach the unborn animal before it breaks away from the body of the mother, or from the enclosure in which it is contained at birth. Such an assumption is of course altogether unwarranted, and it seems to me much more logical to assume, with our "spirit" of the earlier sections, that the modification of inherited trends of action, which as it appears in the higher animals is commonly ascribed to "learning by experience," is a general characteristic of all living matter; and that no simple bit, or complex mass, of living matter can fail to be modified to some degree by each of its reactions,—by each item of its experience.

In treating this distinction as fundamental we also overlook the fact that every animal in which we can observe the differences here considered is a complex system of systems, and that the modification of any inherited trend of action which we choose to study must itself be due to the emphasis of a special partial activity within the whole mass of the activity observed (see § 14 above); and that this partial activity is possible only because the part in which it appears has inherited with its structure capacities to act in certain definite ways; this being true whether the structure has, or has not, been modified by experiences previous to those noted at any special moment.

chapters which follow. Prof. Morgan says: "In saying that the biological end is *the* objective mark of an instinct, he seems to be in error. Because in the first place there are other 'objective marks,' and because in the second place this objective mark is not restricted to instinctive behaviour." The use of the word "the" which Prof. Morgan places in italics in this quotation is perhaps careless, but the word was not italicised in my book (*cf. Instinct and Reason*, p. 91) and was therefore less important in the context than it appears as Prof. Morgan quotes it. It is true that other behaviour than that which he calls instinctive has this "objective mark," and the same is true of the co-ordinate subjective mark referred to by him in objection in the paragraph following the one above quoted. But this is not indicative of a failure of my definition if one keeps in view the fact, that I am concerned to maintain, that all intelligent acts are fundamentally of the same nature as instinctive acts. I acknowledge that these definitions of mine might be more carefully stated, and regret that I am not likely to have an opportunity to profit by Prof. Morgan's criticisms in a second edition of my book: but I cannot think that they are misleading to one who discovers the meaning of my main contention.

[1] *Op. cit.*, p. 65.

It is surely a significant fact, and one upholding our contention, that apart from the disturbances of consciousness connected with marked modifications of what we call our instinctive activities, the modifications of consciousness in connexion with our so-called instinctive, or our so-called habitual, activities are not felt to be different in kind, however much they may appear to vary in degree.

§ 27. We may now turn for a moment, in closing, to the consideration of a distinction which is well worth discussing because it is made much of in current writings. I refer to the distinction between instinctive acts and those governed by intelligence: and here again I shall quote from Prof. Morgan's latest work, for the reason that the writer is much alive to the logical dangers which beset the path of the comparative psychologist.

"Intelligence and instinct," he tells us, "are in large degree independent, though there is continual interaction between them."[1] "Whereas instinctive behaviour is prior to individual experience, intelligent behaviour is the outcome and product of such experience."[2] He acknowledges of course that instinctive reactions often do affect consciousness in a somewhat complex way; and is compelled to agree that possibly reflex actions may have the same characteristics[3] but he feels warranted in assuming that this is mere "sentience" and "has no power of guidance over animal behaviour".[4]

It is evident, indeed, that, if our argument above is valid, the distinction between instinctive acts, and intelligent acts, cannot be maintained unless with Prof. Morgan we assume at some point, and in some manner, "an 'effective consciousness' to enter in the scene and play its part in the guidance of behaviour".[5]

Now it is patent that this notion presents many practical difficulties, for we find that it all too often leads its advocates to assume the attitude of the special pleader. On the one hand they are led to make strained assumptions of lack of intelligence in animals in connexion with complex actions which correspond closely with those in men which we know to be distinctly intelligent;[6] and on the other hand to assume

[1] *Op. cit.*, p. 173. [2] *Op. cit.*, p. 118; *cf.* also p. 120 top.

[3] *Op. cit.*, p. 102. [4] *Op. cit.*, p. 331.

[5] *Op. cit.*, p. 61; *cf.* his explanation on p. 242 which does not however break the force of his many statements as to the appearance of effective consciousness at some step in the course of development.

[6] *Cf.*, Lloyd Morgan, *op. cit.*, p. 125, also p. 210.

that animal bodies do not profit by experience merely because we cannot observe the results of such experience.[1] It leads them also to overemphasise the stupidity of animals who refuse to grasp what seem to us evident advantages,[2] forgetful that few of the higher animals are more stupid in this particular than men often are;—as for example the Chinese coolies who, we are told, still climb with their heavy loads up and down the steps of a certain high bridge which spans the dry bed of a stream which has been diverted from its course for centuries, rather than take a level path aside from the ancient roadway.

But the principal objection to the view that consciousness at times "enters in" to guide behaviour, and at times does not, lies in its unacknowledged denial of the unity of process in consciousness.

I shall not attempt here to inquire as to the real meaning of this phrase "effective consciousness," nor am I concerned to oppose the notion that there is such a thing; in fact I am inclined myself to assert a full and complete conviction that effective consciousness exists, if I am allowed to place my own interpretation upon the phrase.

But I hold that if we claim its existence at all in connexion with animal activities the evidence before us necessarily leads us to hold that in some measure, and in some degree, it must exist in connexion with all reactions of living matter, inasmuch as under my view all such reactions involve more or less important modifications of antecedent forms of reaction, and of the structure without which these reactions would be impossible: and I hold that if the marks of this effective consciousness are not noticeable by us it is no proof that it does not exist; rather is it a proof of the limitation of our powers of observation. This becomes clear I think if we consider our introspective experience in conjunction with what little we know of the coincident neural processes.

§ 28. We have already made note of the evidence that adaptation through experience may be conceived to be due to the emphasis of the activity in some more or less complex minor system which is part of a larger system (see § 14 above). This is evidently a process which holds throughout all systems of neural systems whether they are simple or complex.

The activity thus emphasised is possible because the

[1] *Op. cit.*, pp. 10, 11, 13, 29.
[2] *Op. cit.*, p. 218.

animal has inherited from ancestral forms capacities to react in certain ways to certain stimuli. Even where these capacities have been modified previous to the moment of our observation we see that this modification must itself have been dependent upon a previous emphasis of the reaction of certain elements of a partial system within a greater system.

This emphasis involves, under this hypothesis, the production of a new form in what I have called the "neurergic pattern" of the moment, which leads to a modification of reaction; and this modification of the "neurergic pattern" of the moment results in a more or less fundamental modification of all succeeding "neurergic patterns," and of all succeeding corresponding reactions.

If now we turn to introspection and examine the most prominent cases in which consciousness appear to us to be "effective" in producing modifications of typical forms of reaction, and adaptation to new conditions,—if in other words we examine our modes of reasoning,—we find that in like manner the process appears as the emphasis of some element in a complex psychic presentation;[1] which emphasis involves the production of a new form in the "noëtic pattern" of the moment; and we note also that this modification of the "noëtic pattern" of the moment results in a more or less fundamental modification of all succeeding "noëtic patterns". If, as we have seen, the neural process in relation to modifications is one which holds throughout all systems of neural systems, then clearly the psychic process in relation to modification must in all probability also hold throughout all systems of psychic systems.

If now we turn to that most interesting phenomenon of our conscious experiences in which adaptation seems implicated, *viz.*, the will act, which appears to dissolve our uncertainties, to break down our hesitancies, we find further evidence favourable to our view; for we recall that in our earlier studies of animal life (see § 15 above) we saw that in cases of persistent hesitancy, of persistent opposition between incompatible tendencies to reaction, the emphasis which finally breaks down the opposition must often come from within the undifferentiable mass of the activities in the system of systems. We at once see therefore how it happens that in reflective consciousness it is from the Self (which we hold to be identical with the undifferentiable mass of psychic activities) that the influence appears to arise which involves the will act, which resolves the doubt; which resolution

[1] *Cf.* my *Instinct and Reason*, p. 458 ff.

carries with it the overthrow of hesitancy and the visible result coincident with this will act.

Having observed this process in these highly complex forms let us consider certain cases which are less emphatically presented to our minds, but in which, in the light of what we have just remarked, appear indications of the same process.

At first sight the distinctions between the apparent immediacy of certain actions, and the hesitancy preceding others (*cf.* §§ 12 and 13 above) appear to present difficulty, especially as we note modifications of consciousness in the latter case that do not present themselves in the former. But we at once see that these distinctions are without doubt apparent rather than real; that they are due in the case of hesitancy to the complexity of the psychic and neural systems involved; and to the fact that this complexity gives rise to opposed tendencies to reaction on the one hand, and to opposed presentations in consciousness on the other: in other words that they tend to result in the formation of incompatible "neurergic" and "noëtic patterns".

We see also that we are able to explain in the same terms those complex cases of trial and error, and then of trial and success, and after that of action only in the direction of success. For we see that where the tendency to the formation of incompatible "neurergic" and "noëtic patterns" is overthrown in a way that leads to no permanent reformation of these patterns, a recurrence of the "typical" reaction may readily occur: but that when another overthrow occurs which does lead to a permanent reformation of the patterns, a recurrence of the typical reaction will not be likely to occur and a persistent variation will be noted.

I can spare space here merely to make mention of the corroboration of this view obtained when we examine the states anterior to the act determined, as we say by reason, in the reasoning process;[1] and of those anterior to the will-

[1] *Cf.* my *Instinct and Reason*, p. 459 ff. Note in this connexion Binet's *Psychology of Reasoning* (Open Court Co.) in which he argues that perception and reasoning are due to one and the same process. "Perception," he concludes (p. 88), "is comparable to the conclusion of logical reasoning." "Reasoning (p. 156) is the establishment of an association between two states of consciousness, by means of an intermediate state of consciousness which resembles the first state, which is associated with the second, and which, by fixing itself with the first, associates it with the second." P. 178: "All forms of mental activity are reducible to a single one,—reasoning. The psychical life is a continual conclusion. 'The Mind,' as Wundt says, 'is a thing which reasons.'" *Cf.* also in this connexion the article by Mr. Alexander F. Shand on "The Nature of Consciousness," MIND, April, 1891, especially pp. 208 and 221.

act in desire and impulse.[1] Nor need I do more than refer the reader to the supposed observations of our "spirit" in §§ 23 and 24 above to show how it is possible to explain in terms compatible with this theory the fact that the process of consciousness coincident with minor modifications by experience are not brought into the field of attention in moments of reflexion.

As I have argued in my *Instinct and Reason*,[2] it appears to me that, if we take a broad view, no fundamental distinction can be maintained to exist between so-called intelligent, or reasoned, activities on the one hand, and instinctive activities on the other; instincts themselves appearing as modes of that simplest of all phenomena of activity—the reaction of a living cell to the stimulus from its environment.

Reason must thus finally be stated in terms of the modifications of consciousness coincident with instinctive reactions; and the fact that only certain limited parts of the vast field of consciousness can be held in attention in moments of reflexion suffices to explain the apparent distinctions which we have thus briefly considered, without lessening in any degree our confident belief in the unity of process in consciousness.

[1] *Cf.* my *Instinct and Reason*, p. 448 ff.

[2] *Cf.* especially the summary in chap. xix.

III.—HEGEL'S TREATMENT OF THE CATEGORIES OF QUALITY.

By J. Ellis McTaggart.

In this paper, as in my previous papers on the Categories of the Subjective Notion (Mind, April and July, 1897), the Objective Notion (Mind, January, 1899), and the Idea (Mind, April, 1900), I shall consider one of the great secondary divisions—nine in all—into which the Logic is divided. I shall follow the exposition in the Greater Logic, from which, in this division, the Smaller Logic does not materially differ, except in being less minutely subdivided.

Quality (*Qualität*) is the first division of the Doctrine of Being, and consequently of the whole Logic. It is divided as follows :—

I.—BEING (SEIN).

A.—Being (Sein).

B.—Nothing (Nichts).

C.—Becoming (Werden).

II.—BEING DETERMINATE (DASEIN).

A.—Being Determinate as Such (Dasein als Solches).

(*a*) *Being Determinate in General* (*Dasein überhaupt*).

(*b*) *Quality* (*Qualität*).

(*c*) *Something* (*Etwas*).

B.—Finitude (Die Endlichkeit).

(*a*) *Something and an Other* (*Etwas und ein Anderes*).

(*b*) *Determination, Modification and Limit* (*Bestimmung, Beschaffenheit und Grenze*).

(*c*) *Finitude* (*Die Endlichkeit*).

C.—Infinity (Die Unendlichkeit).

(*a*) *Infinity in general* (*Die Unendlichkeit überhaupt*).

(*b*) *Reciprocal Determination of the Finite and Infinite* (*Wechselbestimmung des Endlichen und Unendlichen*).

(*c*) *Affirmative Infinity* (*Die wahre Unendlichkeit*).

III.—BEING-FOR-SELF (DAS FÜRSICHSEIN).

A.—Being-for-Self as Such (Das Fürsichsein als Solches).

(*a*) *Being Determinate and Being-for-Self* (*Dasein und Fürsichsein*).

(*b*) *Being-for-One* (*Sein für Eines*).

(*c*) *One* (*Eins*).

B.—The One and the Many (Eines und Vieles).

(*a*) *The One in Itself* (*Das Eins an ihm selbst*).

(*b*) *The One and the Void* (*Das Eins und das Leere*).

(*c*) *Many Ones* (*Viele Eins*).

C.—Repulsion and Attraction (Repulsion und Attraktion).

(*a*) *Exclusion of the One* (*Ausschliessen des Eins*).

(*b*) *The One One of Attraction* (*Das Eine Eins der Attraktion*).

(*c*) *The Relation of Repulsion and Attraction* (*Die Beziehung der Repulsion und Attraktion*).

In Hegel's use of the word Being there is an ambiguity which may be dangerous unless carefully noticed. He uses it, as will be seen (i.) for one of the three primary divisions into which the whole Logic is divided; (ii.) for one of the three divisions of the third order into which Quality is divided; and (iii.) for one of the three divisions of the fourth order into which Being in the second sense is divided. In the same way Quality, besides being used for the division of the second order which forms the subject of this paper, is also used for a division of the fifth order, which falls within Being Determinate as Such.

I.—BEING.

A.—Being.

I do not propose to discuss here the validity of the category of Pure Being as the commencement of the Logic. This is rather a general question affecting the whole nature of the process than a detail of the earlier stages, and I have already discussed it in my *Studies in the Hegelian Dialectic* (*cf.* sections 17, 18 and 79). If, then, we begin with the category of Being, what follows?

Pure Being, says Hegel (Greater Logic, 78; Encyclopædia, 87 *) has no determination of any sort. Any determination would give it some particular nature, as against some other particular nature—would make it X rather than not-X. It has therefore no determination whatever. But to be completely free of any determination is just what we mean by Nothing. Accordingly, when we predicate Being as an adequate expression of reality, we find that in doing so we are also predicating Nothing as an adequate expression of reality. And thus we pass over to the second category.

B.—Nothing.

This transition, which has been the object of so much wit, and of so many indignant denials, is really a very plain and simple matter. Wit and indignation both depend, as Hegel remarks (G. L., 82; Enc., 88) on the mistaken view that the Logic asserts the identity of a concrete object which has a certain quality with another concrete object which has not that quality—of a white table with a black table, or of a table and courage. This is a mere parody of Hegel's meaning. Whiteness is not Pure Being. When we speak of a thing as white, we apply to it many categories besides Pure Being—Being Determinate, for example. Thus the fact that the presence of whiteness is not equivalent to its absence is quite consistent with the identity of Pure Being and Nothing.

When the dialectic process moves from an idea to its antithesis, that antithesis is never the mere logical contradictory of the first, but is some new idea which stands to the first in the relation of a contrary. No reconciling synthesis

* My references in this paper to the Greater Logic are to the *pages* of vol. iii. of Hegel's *Works* (ed. 1833); my references to the Encyclopædia are to *sections*.

could possibly spring from two contradictory ideas—that is, from the simple affirmation and denial of the same idea. In most parts of the dialectic, the relation is too clear to be doubted. But at first sight it might be supposed that Nothing was the contradictory of Being. This, however, is not the case. Being here means Pure Being, and the contradictory of this is Not-Pure-Being. This is a much wider term than Nothing, for it includes both Nothing and all determinate being. Nothing is the direct opposite of Pure Being and not its mere denial.

Hegel says, indeed (G. L., 79), that we could as well say Not-being (*Nichtsein*) as Nothing. But it is clear that he does not take the affirmation of Not-being to be identical with the denial of Pure Being.

If the identity of Being and Nothing were all that could be said about them, the dialectic process would stop with its second term. There would be no contradiction, and therefore no ground for a further advance. But this is not the whole truth (G. L., 89; Enc., 88). For the two terms, to begin with, meant different things. By Being was intended a pure positive—reality without unreality. By Nothing was intended a pure negative—unreality without reality. If each of these is now found to be equivalent to the other, a contradiction has arisen. Two terms which were defined as incompatible have become equivalent. Nor have we got rid of the original meaning. For it is that same quality which made the completeness of their opposition which determines their equivalence. A reconciliation must be found for this contradiction, and Hegel finds it in

C.—Becoming.

The reconciliation which this category affords appears to consist in the recognition of the intrinsic connexion of Being and Nothing (G. L., 79; Enc., 88). When we had these two as separate categories, each of them asserted itself to be an independent and stable expression of the nature of reality. By the affirmation of either its identity with the other was denied, and when it was found, nevertheless, to be the same as the other, there was a contradiction. But Becoming, according to Hegel, while it recognises Being and Nothing, recognises them only as united, and not as claiming to be independent of one another. It recognises them, for Becoming is always the passage of Being into Nothing, or of Nothing into Being. But, since they only exist in Becoming in so far as they are passing away into their contraries, they

are only affirmed as connected, not as separate, and therefore there is no longer any opposition between their connexion and their separation.

But, Hegel continues, this is not the end of the matter. Being and Nothing only exist in Becoming as disappearing moments. But Becoming only exists in so far as they are separate, for if they are not separate, how can they pass into one another? As they vanish, therefore, Becoming ceases to be Becoming, and collapses into a state of rest which Hegel calls Being Determinate (G. L., 109; Enc., 89).

I confess that I regret the choice of Becoming, as a name for this category. What Hegel meant seems to me to be quite valid. But the name of the category suggests something else which is not valid at all.

All that Hegel means by this category is, as I have maintained above, that Being is dependent on Nothing in order to enable it to be Being, and that Nothing is dependent on Being in order to enable it to be Nothing. In other words, a category of Being without Nothing, or of Nothing without Being, is inadequate and leads to contradictions which prove its falsity. The only truth of the two is a category which expresses the relation of the two. And this removes the contradiction. For there is no contradiction in the union of Being and Nothing. The contradiction was between their union and the previous assertion of the unsynthesised categories as independent and adequate expressions of reality.

Hegel seems to have thought it desirable to name the new category after a concrete fact. But this use of the names of concrete facts to designate abstract categories is always dangerous. It is, as I have maintained in previous papers, the cause of the confusion to be found in Hegel's treatment of the categories of Chemism and Life. In the present case, the state of becoming involves, no doubt, the union of Being and Nothing, as everything must, except abstract Being and Nothing. But becoming involves a great deal more—a great deal which Hegel had not yet deduced, and had no right to include in this category. I do not believe that he meant to include it, but his language almost inevitably gives a false impression.

When we speak of Becoming we naturally think of a process of change. For the most striking characteristic of the concrete state of becoming is that it is a change from something to something else. Now Hegel's category of Becoming cannot be intended to include the idea of change.

Change involves the existence of some permanent element in what changes—an element which itself does not change.

For, if there were nothing common to the two states, there would be no reason to say that the one had changed into the other. Thus, in order that anything should be capable of change it must be analysable into two elements, one of which changes, while the other does not. This is impossible under the categories of Quality. Under them each thing—if indeed the word thing can properly be used of what is so elementary—is just one simple undifferentiated quality. Either it is itself—and then it is completely the same—or its complete sameness vanishes, and then it vanishes with it, since its undifferentiated nature admits no partial identity of content. Its absolute shallowness—if the metaphor is permissible—admits of no distinction between a changing and an unchanging layer of reality.

This was recognised by Hegel, who says that it is the characteristic of Quantity that in it, for the first time, a thing can change, and yet remain the same (G. L., 211; Enc., 99). He cannot, therefore, have considered his category of Becoming as including change proper.

But, it may be objected, although Hegel's category of Becoming is incompatible with fully developed change, may it not be compatible with a more rudimentary form of change? Is it not possible that, even among the categories of Quality, a place may be found for a category which involves, not the change of A into B, but the disappearance of A and the appearance of B instead of it? To this we may reply, in the first place, that if such replacement of A by B was carefully analysed, it would be found to involve the presence of some element which persisted unchanged in connexion first with A and then with B. The case would then resolve itself into an example of change proper. But it is not necessary to go into this question. For it is clear that, if such a replacement could exist without being a change of A into B, then A would necessarily be quite disconnected with B. But in Hegel's category of Becoming the whole point lies in the intrinsic and essential connexion of Being and Nothing.

The category, then, cannot be taken as one of change, if it is to be consistent with the rest of Hegel's system. And when we look at the actual transition to this category (G. L., 79; Enc., 88) we see, as I said above, that the essence of the new category lies in the necessary implication of Being and Nothing, and not in any change taking place between them.

But the name of Becoming is deceptive in itself, and so is Hegel's remark that the category can be analysed into the moments of Beginning (*Entstehen*) and Ceasing (*Vergehen*)

(G. L., 109). If the implication of the two terms is to be called Becoming, there is no reason why these names should not be given to the implication of Being in Nothing and of Nothing in Being. It tends, however, to strengthen the belief that the category is a category of change. The same result is produced by the connexion of the philosophy of Heraclitus with this category (G. L., 80; Enc., 88). Of course a philosophy which reduced everything to a perpetual flow of changes would involve the principle of the implication of Being and Nothing. But it would also involve a great deal more, and once again, therefore, we meet the misleading suggestion that this great deal more is to be found in the category of Becoming.

For these reasons I believe that the course of the dialectic would become clearer if the name of Becoming were given up, and the Synthesis of Being and Nothing were called Transition to Being Determinate (*Uebergang in das Dasein*). This follows the precedent set by Hegel in the name of the last category of Measure, which he calls Transition to Essence (*Uebergang in das Wesen*) (G. L., 466).

When we have taken this view of the category, the transition to the next triad becomes easy. So long as the third category was regarded as involving change, two difficulties arose about this transition. How, in the first place, was the change which was introduced in the third category eliminated in the fourth, since Being Determinate is certainly not a category of change? And, in the third place, if this could be done at all, how could it be done as the transition from a Synthesis to a new Thesis, since this transition should not be an advance, but a restatement of the old result in a more immediate form?

On our interpretation both difficulties vanish. Change has never been introduced, and, therefore, has not to be eliminated. And the relation between the Synthesis and the new Thesis is seen to be a very typical example of the "collapse into immediacy," which should constitute this transition. For the Synthesis means that Being and Nothing are inseparably connected, and the new Thesis means that all reality consists in the union of Being and Nothing. And the second of these is a restatement of the first, in a form which has less reference to the contradiction which it surmounts, and more reference to the independent statement of the truth.

II.—BEING DETERMINATE.

A.—Being Determinate as Such.

(*a*) *Being Determinate in General.*

This, as the first subdivision of the first division of Being Determinate, has, as its name implies, no other meaning except the general meaning of Being Determinate, namely, that in all reality Being and Nothing are united.

Then, for the first time, we get the possibility of differentiation and plurality. Being and Nothing did not admit of this. Whatever simply Is is exactly the same. And this is also true of whatever simply Is Not. But under the category of Being Determinate, it is possible for x to be blue and not red, and so distinguished from y, which is red and not blue. And not only the possibility of such differentiation, but also its necessity is now established. For whatever is must also not be, and cannot be what it is not. It must therefore not be something else than what it is. And thus the reality of anything implies the reality of something else. This will become more evident later on. Meanwhile Hegel calls the various differentiations by the name of Qualities, and so we reach the second subdivision of Being Determinate as Such, namely,

(*b*) *Quality.*

We must not be misled by the ordinary use of the phrase "a Quality". As a rule, when we speak of a Quality or of Qualities, we mean characteristics which inhere in a Thing, and of which one Thing may possess many—which Hegel calls, when he comes to treat of Essence, by the name of *Eigenschaften*. We have not yet reached any idea so advanced as this. It is not till Essence has been reached that we shall be able to make a distinction between a Thing and its characteristics. And, although we have now attained a plurality, we have not yet acquired the idea of plurality in unity, which would be necessary before we could conceive one Thing as having many characteristics.

The Qualities of which Hegel speaks here are simply the immediate differentiations of Being Determinate. They do not inhere in anything more substantial than themselves; they, in their immediacy, *are* the reality. Consequently they are not anything separate from the Being Determinate. Each Quality has determinate being, and Being Determinate,

as a whole, is nothing but the aggregate of the Qualities. There is not one Being Determine with many Qualities, but there are many determinate beings. These may be called, not inappropriately, Somethings. And this is the transition to the third subdivision of Being Determinate as Such, namely,

(*c*) *Something.*

At this point, says Hegel, we first get the Real (G. L., 120; Enc., 91). It does not seem very clear why it should be at this precise point. Reality is a matter of degree, and Something is a very unreal category as compared with those later on in the dialectic. Of course Something is more real than the categories which precede it, but I cannot see on what ground Hegel refuses them *all* right to the title of reality. At the least, I should have supposed, reality would begin with the first Synthesis—*i.e.*, with Becoming.

Looking back on the two last transitions—from Being Determinate in General to Quality, and from Quality to Something—they must, I think, be pronounced to be valid. A doubt might perhaps arise as to the necessity of passing through them. Is it not clear, it might be said, that the differentiations cannot lie on the surface of Being Determinate (since that would involve a distinction between Essence and Appearance), but must be in it? And in that case could we not have simplified the process by taking Something as the immediate form of Being Determinate, and so forming the undivided first moment of it.[1]

But between simple Being Determinate and Something there is a difference—namely, the explicit introduction of plurality. The fact that the name of Something is in the singular number (inevitable with the German *Etwas*), may obscure this if we confine ourselves to the titles, but by reading the demonstrations it soon becomes evident that plurality is introduced in this triad, and remains as a permanent acquisition for the dialectic. Something, therefore,

[1] This objection may be made clearer by a table :—

I. Hegel's division of Being Determinate.	II. Division proposed by Objection.
A. Being Determinate as Such.	A. Something.
(*a*) Being Determinate in General.	(Without any subdivisions.)
(*b*) Quality.	
(*c*) Something.	
B. Finitude.	B. Finitude.
(Et cetera.)	(Et cetera.)

is more than simple Being Determinate, and requires one additional step, at least, before it can be reached from it.

We can also see why there should be two steps between Being Determinate in General and Something, and why the road from the one to the other should lie through the category of Quality. The transition to plurality takes place in the transition to Quality, since Hegel speaks of one Being Determinate, but of many Qualities. Now we can see, I think, that it is natural that, in passing from the undifferentiated to the differentiated we should first think that the differentiated is something different from that which we had previously held to be undifferentiated (and in Quality we do hold them to be different), and that it should require a fresh step of the process to show us that the differentiations are the true form of what we had previously held to be undifferentiated (and this is what is gained in the transition to Something).

We have now a plurality of Somethings. Each of these is dependent for its nature on not being the others. It may thus be said, in a general sense, to be limited by them. (Limit, as a technical term in the dialectic, denotes a particular species of limitation in the more general sense.) With this we pass to the second division of Being Determinate, which is

B.—Finitude.

(*a*) *Something and an Other.*

As the Thesis of a new triad, this category should be a restatement, in a more immediate form, of the category of Something. This is exactly what it is. For the category of Something, as I have remarked, included the idea of a plurality of such Somethings. And, from the point of view of any one of these, the other Somethings will be primarily not itself. So we get the idea of Something and an Other.

Since each Something is dependent for its own nature on an Other, its nature may be called a Being-for-Other (*Sein für Anderes*). But this is not the only aspect of its nature. The relation to an Other is what makes it what it is. And thus this relation is also what it is By Itself or implicitly (*An Sich*).[1] And thus this relation is also a quality of the Something itself (G. L., 129; *cf.* also Enc., 91, though the explana-

[1] It is, as far as I know, impossible to find any one English phrase which will adequately render *An Sich*. I have followed Prof. Wallace's example in using either By Itself or Implicitly, according to the context.

tion is here so condensed as scarcely to be recognisable). This takes us to the next subdivision, Determination, Modification and Limit. (I admit that Modification is not a very happy translation of *Beschaffenheit*, but it is impossible to get really good names for so many meanings which differ so slightly.)

(*b*) *Determination, Modification and Limit.*

Not content with the analysis of his subject matter by five successive trichotomies, Hegel further analyses this category into a triad of the sixth order, the terms of which are Determination, Modification and Limit. The subtlety of the distinctions at this point is so great that I must confess to having only a very vague idea of what is meant. As far as I can see, Determination is the character of the Something viewed as its inner nature, and Modification is that character viewed as something received by it from outside—is, in fact, the Being for Other come back again. It follows, then naturally enough, that Determination and Modification were identical. And from this again it would follows that, as the Something was conceived as having a nature which was both a characteristic of itself and of its Other, that that nature should be conceived as a Limit. In such a sense a meadow is limited by the fact that it is not a wood, nor a pond (Enc., 92). Now it is clear that we only get such a limit when the nature of the Something is seen to be both in itself and in its relation to an Other. The conception of a Limit implies that it makes the Something what it is—no more and no less. That it should be no less than itself requires that its nature should be in itself, so that it should maintain itself against the Other. That it should be no more than itself requires that its nature should also be outside itself, that the Other should maintain itself against it.

The correctness of this interpretation is, no doubt, very problematic. But whatever Hegel's meaning may have been in this obscure passage, we can see for ourselves that the category of Limit would necessarily have come in at this point. For, in the category of Something and an Other, the nature of each Something lay in the Other. But it is also true, as Hegel points out without any obscurity, that the nature of Something must also lie in itself. And, since the nature of Something lies both in itself and in its Other, we have the idea of a Limit—of a characteristic which, while it belongs both to Something and to its Other, keeps them apart.

Here, as Hegel remarks (G. L., 133), we get for the first time the conception of Not-being for Other. In the category of Something and an Other we had the conception of Being for Other, but now in Limit the Something has its nature in itself as well as in the Other, and so is distinguished from its Other, as well as connected with it.

At this point, therefore, we may be said to get the first glimpse of the conception of Being for Self. But it is not yet seen to be the truth of Being for Other. On the contrary it appears to be in opposition to it, and this opposition produces fresh contradictions, which cannot be solved until the true nature of Being for Self is discovered in the category which bears that name.

We now come to Finitude in the narrower sense. That this conception should only be reached at this point will not seem strange if we remember the meaning which Hegel always gives to this term. For him the Finite is not simply that which has something outside it, as the Infinite is not simply that which has nothing outside it. The Infinite for him, as we shall see in more detail later on, is that whose nature and consequently whose limits are self-determined. The Finite, on the other hand, is that whose nature is limited by something outside itself. The essential real of the Infinite is free self-determination. The essential real of the Finite is subjection to an Other.

This explains why Finitude only became explicit at this point. Two things are necessary for subjection to an Other —the Other, and a definite nature in the Something to be subjected to it. The conception of plurality was only reached at the end of Being Determinate as Such, and till then there could be no question of Finitude. When this point was reached, Finitude began to appear, and accordingly the second division of Being Determinate, which we are now considering, is, as we have seen, called Finitude. But Finitude does not become fully explicit till the Something's nature is seen to be also in itself, and not only in the Other. For till then there can scarcely be said to be anything to be subjected to the Other. Only with the conception of Limit does Finitude become fully explicit. And accordingly the next category—the last subdivision of Finitude in the wider sense—is called in a special sense

(*c*) *Finitude.*

This category is merely a restatement of the last moment of the previous subdivision—that is to say, of Limit. The

idea of a Limit is, as has already been said, the idea of Finitude, since they both imply that the limited thing has a nature of its own, and that its nature is in subjection to an Other. This conception takes the form of Limit when we view it as overcoming the difficulties which arise from the opposition between nature as in an Other and nature as in the object itself. When the conception is taken as a more immediate statement of the truth it takes the form of Finitude.

In its relation with the previous category—Determination, Modification and Limit—as a whole, Finitude is the Synthesis of that category with the previous category of Something and an Other. The last-named category asserted that the nature of the Something lay in its Other. Determination, Modification and Limit asserted, on the other hand, that the nature of the Something lay in itself. These conceptions are reconciled in Finitude.

In Finitude, as was said above, there are two sides—the internal nature of the finite Something and the relation in which it stands to the Other. These Hegel calls respectively the Ought and the Barrier (*Das Sollen und das Schranke*) (G. L., 140). The Barrier seems an appropriate name. But why the internal nature of the Something should be called the Ought is not so clear. No doubt a conscious being, when he feels himself limited by something, says that the limit ought to be removed, and that he ought to have room to develop freely. But the resemblance between such a conscious being and a limited Something is very slight, and far less important than the difference. When a man says that he ought to be able to do what, in point of fact, the circumstances do not allow him to do, he has an ideal of some course of action other than the one which he is forced to take, and he judges that his ideal course would fulfil his true nature more completely than the other course which he is obliged to take. The position here is entirely different. The content of the two opposed sides is here the same, for the Something has only one nature, which may be looked at either as in itself or in the Other, and the opposition is only between two ways of looking at it.

Why did Hegel use the word Ought? I believe that his reason for taking this particular term was that it gave him a chance of introducing an attack on the ethics of Kant and Fichte (G. L., 142; Enc., 94). This was a temptation which he was never able to resist.

But the inner nature of the Something now bursts its Barrier. The Other which limits it has no nature which is

not expressed in the limitation itself. And the limitation belongs to the nature of the Something. So that it now finds its own nature beyond the Barrier, which it has, therefore, passed (G. L., 147; the line of the argument in the Encyclopædia is rather different, and will be considered later on). To go back to Hegel's own example, a meadow is limited by the fact that it is not a wood. If we look at this example under the present category we know nothing about the meadow except that it is not a wood. This is the whole of the meadow's nature. Its whole nature is in the opposition of the wood, and, therefore, it is to be found in the nature of the wood, and is no longer something bounded and confined by the wood's nature—for what is left to be bound? We thus pass to

C.—Infinity,

the third division of Being Determinate. For the Barrier being abolished, the Something is no longer determined by anything outside itself. Thus we have got rid of Finitude, and so attained Infinity, though, as we shall see later on, we have not yet acquired the whole of the true conception of Infinity.

We seem to have got rid of constraint and obtained freedom by a very short and simple process. But it must be noticed that, at this point of the dialectic, both the constraint and the freedom can only be trivial. Constraint means the control of the nature of one thing by another. Freedom means the self-determination of a thing's nature. Thus constraint and freedom alike can only be real in proportion as the object of discourse has a developed self.

At this point the first rudiments of the idea of the self have barely appeared. And the result is that constraint and freedom are, as we have seen, almost identical. When our object has no nature but its relations to others, then, when it is determined by others, it is determined by its own nature, and is, therefore, free. But the difference between such constraint and such freedom is insignificant. As the dialectic progresses the idea of constraint will return, especially in the categories of Reciprocity, and of Mechanism with Affinity. And, with the increasing development of the inner nature of the object, the constraint will be a much more serious matter, and its removal of much greater value.

When, in the first place, the Something passes over its Barrier it finds itself outside the Barrier, and so not limited. Thus the first stage is

(*a*) *Infinity in General.*

But what is this Infinity? It has been gained by negating Finitude, and passing beyond it. Now nothing can negate anything definite, except by being definite itself. And we have seen that a thing can only be definite if it has a limit, and is finite. And thus the Infinite which we seemed to have reached turns out to be another Finite. A meadow, for example, cannot be negated by pure Being or by Nothing. It must be by some other Being Determinate. And this must be finite.

The Infinity, which had been reached, thus turns out to be finite. But, being finite, it will have its nature outside itself, and so again passes the Barrier, and becomes infinite —only once more to become finite. This process goes on without end, and so we reach the second subdivision (G. L., 149),

(*b*) *Reciprocal Determination of the Finite and Infinite,*

which may be more conveniently referred to as Negative Infinity (Enc., 94).

It may be objected that this is a category of change, and that, by Hegel's own theory, change ought not to come in till we reach the categories of Quantity. I do not think, however, that it is correct to describe this as a category of change. A category of change is one which asserts that the reality, when viewed under that category, is viewed as changing its nature. Now this is not the case here. The reality — the nature of the Something — is not conceived as changing. All that changes is the category under which we look at it. We conceive its nature, first, as being in itself, then as being generally outside itself, then as being in another Something, then as generally outside that other Something again. We oscillate endlessly between two categories. But this does not involve any judgment that the reality changes. It is only a change of judgment about the reality.

This oscillation involves a contradiction. The nature of the Something is first seen to be not Finite, but Infinite. But it is then seen to be not Infinite but Finite again. And the second step does not supersede the first, for the first step recurs immediately we have reached the second. The nature of the Something, therefore, can be found nowhere—not in the Finite, nor in the Infinite. But the Something has already been defined to have a nature. Hence there is a contradiction.

It should be noticed that Hegel never says that an Infinite Series is *as such* contradictory. He denies that there is anything sublime in endless repetition, and asserts that its only important feature is its tediousness (Enc., 94), but he does not assert it to be intrinsically inconsistent with itself. The contradiction only arises when, on the one hand, it is asserted that something is explicable or determinable, and, when on the other hand, the attempt to explain or determine it leads to an infinite series. For we cannot tell that the series will be infinite, unless we know that *no* term in the series can give the required explanation or determination. And, if no term can give it, and the explanation or determination can only be looked for in the series, then it will not be found at all, which contradicts the original assertion that it can be found.

In opposition to this it may perhaps be said that, though no term can give the required explanation or determination, the whole series may. But if the series is a mere aggregate of its terms, it can give nothing that is not given by one of them. And if the series is something more than the mere aggregate of its terms, then the solution is found in its unity, and not in the infinite series at all.

How, then, do we reach a solution of the present contradiction? It is curiously simple, for, as Hegel points out (G. L., 155), the same fact which produced the contradiction has only to be looked at in a rather different light to give the solution. That fact is the unity of the Finite and the Infinite—or, in other words, of what is within any finite Something and of what is outside it. It was this which produced the infinite series, for it was this which made the content of the Something overstep its Barrier, and then become another finite Something, and so on without end. But if we put it in another way—that the content of the Something is just its relation to what is outside it, then the Something has an internal nature which is stable through its relation to what is outside it, and the infinite series never begins. The solution lies in saying that the Something has its nature through what is outside it, instead of saying that it has no nature except in what is outside it. The conception of relatively self-centred reality thus reached is called by Hegel

(*c*) *Affirmative Infinity.*

The root, both of the difficulty and the solution, is that the nature of the Something cannot be found exclusively in itself.

If we conclude from this that it must be found exclusively in another thing, our position is hopeless. For anything else turns out to be a Something, and no Something has any nature which is exclusively in it. But if we simply accept the fact—that the nature of a Something is constituted by its relation to others, there is no need to go any farther. The only difficulty in the way of gaining this result is the atomistic bias of our ordinary unreflective thought—which Hegel calls the Understanding in opposition to the Reason. This bias leads us to the belief that whatever is not quite in a Something must be quite out of it, and quite in another Something. And it is not till the contradictions involved in this have been made clear that the way is left open for the true solution.

The treatment of the subejct in the Encyclopædia is slightly different. After establishing the category of Limit, he goes on (Enc., 93): "Something becomes an Other: this Other is itself Something: therefore it likewise becomes an Other, and so on *ad infinitum*". The transition here is not alternately from Finite to Infinite, and from Infinite to Finite, but uniformly from Finite to Finite. Infinity comes in for the first time in the infinite series of such Finites. This seems to me not to be so good a form as the one adopted in the Greater Logic, since it does not bring out so clearly that the spring of the whole process is the necessity for referring the nature of the Something to what is not itself. The recognition that the not-itself must be another Something is a distinct step, and is better taken as a distinct step, in the manner of the Greater Logic.

The transition to True Infinity, again (Enc., 95), is not so clear as in the Greater Logic. Hegel says that the Something stands in the same position to its Other, as the Other does to it. It is the Other of its own Other, and, therefore, "Something in its passage into Other only joins with itself". This means, I think, that when we have been driven to look for the nature of the Something in its Other we are then, by the same necessity, driven to look for it in the Other of its Other. And, as the original Something is the Other of its Other, the nature of the Something is again found in itself, and has not to be pursued through an endless chain of fresh Others. This is really the same thought as in the Greater Logic, but not, I think, so well expressed, since it may mislead us into thinking that the transitions from Something to Other still go on, though in a closed circle and not in a straight line, whereas the truth is, as we saw above, that we have now substituted for these transitions one stable relation, according to which the nature of a Something does not lie in

its Other as opposed to itself, but permanently in the relation of itself to its Other. If an alternation was offered as the solution it could no longer be an alternation of categories, but a category of alternation, that is, of change. And this is as yet impossible.

It is at this point, according to Hegel, that we first get Ideality (G. L., 164; Enc., 95) and that Idealism becomes possible (G. L., 171). Idealism consists in maintaining that the Finite is Ideal, and this, again, means that the Finite is to be recognised "not truly to be". This is more than the mere absence of the assertion that the Finite truly Is, for such an assertion is absent also in pure Being and in Nothing. The present position involves that the Finite should have been seen, and also transcended; and that we should recognise that the nature of every finite thing lies in being more than itself, and that the merely Finite would be non-existent. This is the first category in which we get some rudimentary understanding of this conception, which will have so much importance in the later stages of the dialectic.

The nature of the Something is no longer merely *in* itself, as was the case when the conception of the Something was not yet united with that of its Other. Nor is it merely out of itself, as was the case in the infinite series of Finites and Infinites. The nature of the Something is now in itself by means of and in distinction from its Other. This increases the unity of the Something, and when we restate this result, in order to pass to a new triad, we have reached the conception of

III.—BEING-FOR-SELF

(G. L., 165; Enc., 96). This is the third of the main divisions of Quality, and it synthesises the undetermined self-existence of Being with the determined existence-for-other of Being Determinate. Its first division is called by Hegel (G. L., 174)

A.—Being-for-Self as Such.

(*a*) *Being Determinate and Being-for-Self.*

The first subdivision of Being-for-Self as Such is called Being Determinate *and* Being-for-Self (G. L., 175). The position here is that a thing has *both* Being Determinate and Being-for-Self. It is, as before, qualitatively differentiated from its Other, while the Being-for-Self gives it stability, and saves it from the infinite series of Others, in which Being

Determinate, taken by itself, is compelled to seek the determination of each qualitative differentiation.

But the position cannot be maintained. For Being Determinate has, by the previous transition, been transcended in Being-for-Self, and is a moment of Being-for-Self. In so far as it is valid at all, its validity is summed up in Being-for-Self. In so far as it claims to be anything distinct from, and supplementary to, Being-for-Self, it is not valid. Therefore (G. L., 176) all Being-for-Other has now disappeared, and Being-for-Self is not for an Other. Being-for-Self has not negation "*an ihm*" as a determinateness or limit, and therefore not as a relation to a Being Determinate other than itself.

We have no longer a Something, since Hegel confines that term to the sphere of Being Determinate. At the same time we are not yet entitled to speak of a One. Let us for the present call the reality, which was previously called the Something, by the neutral name of X. The point of the present argument is that the relation of the X to the not-X has become more negative than before.

We must not exaggerate the change. The relation of the Something to the Other was already, in a sense, negative, for the Something was limited by its Other, and was what the Other was not. And, again, X is still related to the not-X. For it is only by distinguishing itself from the not-X that it got Being-for-Self at all, and this distinction is itself a relation, as will appear more explicitly when we come to the categories of the Many and of Attraction. (When Hegel says that Being-for-Self does not contain negation "as a relation to a Being Determinate other than itself" (G. L., 176), the emphasis is, I believe, on the last words. There *is* a relation, but it is not a relation to a Being Determinate, nor to anything which is, in the technical sense, the "Other" of the Being-for-Self.)

But the change is there, and is important. When the Something was determined by its Other, the positive nature of the Other was essential to the determination. The Something was this quality, and not any other, and it was determined in this way because the Other was what it was, and nothing else. Now it is different. In Being-for-Self, X merely distinguishes itself from not-X, without considering whether not-X is Y or Z. So long as it has something which is not itself, from which it can distinguish itself, it has all it wants. This is clearly a more negative relation.

The result of this change is to destroy the qualitative differences which have prevailed throughout Being Deter-

minate, and to substitute for them rudimentary numerical differences. (Number, and consequently numerical differences, are not fully developed till we reach Quantity.) For the nature of whatever Is for Self has been shown to depend entirely on its relation with what is not itself. And if that relation no longer takes account of the quality of the other term, but merely of its distinction, it follows that nothing can be known of that which Is for Self, except that it is distinct from what is not itself, and that we have no longer any qualities by which we distinguish different realities which Are for Self, except the abstract fact that each is for itself, and not for anything else. We are very close here to arithmetical units, and it is through this conception, as we shall see, that Hegel makes his transition to Quantity.

Is this argument to be accepted as valid? It may seem to be invalid that, in passing to a higher category, we should give up qualitative determination for what is practically already quantitative determination. Surely quality is higher than abstract quantity. But we must remember that, although beings which are self-determined are doubtless conceived more adequately when they are conceived as qualitatively determined, yet it does not follow that abstract self-existence without quality is lower than abstract quality without self-existence. Pure Quantity is lower than much which is qualitatively determined, but it is higher than *pure* Quality, which is what we are now discarding. And, while Being-for-Self and qualitative determination are essentially connected, and neither can develop its whole meaning except by aid of the development of the other, this leaves it quite possible that Being-for-Self, in the crude and abstract form in which the idea first appears, may be incompatible with the crude and abstract idea of Quality which we have so far attained.

The defect in Being Determinate was the absence of self-determination. It was this which produced the most characteristic of its contradictions—the infinite series of oscillations between the Finite and the Infinite. The dialectic escaped from this by the demonstration that the nature of each X was in itself, as well as in the not-X. This implied the abandonment of the old prejudice of the "Understanding," that a given content must either be completely in X, or completely out of it. But such a fundamental defect of non-speculative thought can only be conquered by degrees. Forced to admit that self-determination of X is only possible through determination by what is not-X, we endeavour to make the determination by the not-X as purely abstract and

negative as possible—depending, not on the concrete nature of the not-X, but only on its abstract characteristic of being not-X. And this inevitably leads to the X becoming equally abstract, and so indistinguishable from any other X. This leads on to Quantity, and the contradictions that arise from Quantity bring back the idea of Quality in a higher and more adequate form.

The new category to which we now pass is called by Hegel

(*b*) *Being-for-One*

(G. L., 176). And he has then no difficulty in proving that the One, for which the X is, can only be itself. If it were anything else, the Being-for-One would be Being-for-Other. And this is impossible, since Being-for-Other has already been transcended. The Being-for-One of X, then, is Being-for-Self.

It might be thought superfluous to make anything so obvious as this into a separate stage in the argument. Being-for-Self had been already reached. It is the name of the whole triad, of which Being-for-One is only a subdivision of a division. It is explicitly before us in the previous subdivision, which was called Being Determinate and Being-for-Self. And the transition from that subdivision rested on the incompatibility of Being Determinate with Being-for-Self. Surely then it should have led straight to a category asserting the sole validity of Being-for-Self, and not to a category of Being-for-One, which left the question " For what One? " to be settled by a fresh transition.

But we ought, I think, to consider the significance of Being-for-One as mainly negative, in spite of its positive name. Its essence is that Being-for-Self is *not* also Being Determinate, and it might not unfairly have received the name of Not-Being for Other.

If we put it in this way, it is natural enough to leave the consequent positive determination to a fresh category. And this category will consist in the restatement of Being-for-Self, but this time as the sole restatement of reality. To this Hegel (G.L., 181) gives the name of

(*c*) *One*,

which emphasises that negative and exclusive character of Being-for-Self, the insistence on which has produced the new category. We now pass to the second division of Being-for-Self, namely,

B. The One and the Many.

(*a*) *The One in Itself.*

The first subdivision here is, as usual, a restatement of the last subdivision of the previous division. The two bear, in the present instance, almost the same name. Now the One, since it is Being-for-Self, has its nature by relating itself to, and distinguishing itself from, something other than itself. But this other is at first only determined negatively in regard to the One. The relation of the other term to the One is simply that the other term is not the One. This other term has, therefore, to begin with, a merely negative nature. The One is limited by the not-One, by which is meant, so far, not the Many, but only something which is not the One. Thus we get

(*b*) *The One and the Void.*

The name of this category is appropriate enough as a metaphor, but we must remember that it is nothing but a metaphor. If it were a Void, in the literal sense of the term, that was related to the One, the One could only be an atom in space, which is not the case.

But the One can only be negated by something like itself (G.L., 187). The One is definite, and its definiteness depends on a definite relation with the other term. And the relation between them cannot be a definite relation to a definite One, unless the other term is itself definite. Now it has been shown that nothing can be definite, unless it is for itself, and so is a One. Thus the One can only be negated by another One, which brings us to the category of

(*c*) *Many Ones*

(G.L., 186), to which Hegel gives the additional name of Repulsion; since the relation of the Ones to each other is mainly negative.

Since the conception of the Many has been reached, the natural question to ask is How Many? Hegel does not regard this as a question which can be answered by pure thought. Pure thought has proved the necessity of a plurality—has proved, that is, that there must be at least *two* Ones. It has not proved, I imagine, that there are more than two. The proving of that would rest on the empirical fact that we are presented with more than two differentia-

tions of our experience. So far as the dialectic can tell us, the number of Ones may be any number not less than two. There is no reason, that I can see, *in this stage of the dialectic*, why the number should not be infinite, for an infinite number of Ones would not entail the contradictions which we discovered in the infinite series in Being Determinate. It is possible, of course, that, as we advance in the dialectic, we shall meet with objections to an infinite number of differentiations.

Hegel says that the deduction of the Many Ones from the One must not be considered a Becoming, "for Becoming is a transition from Being to Nothing; One, on the other hand, only becomes One" (G.L., 187). And he also warns us (G.L., 188) that the plurality is not to be regarded as Other-being, for each One is only externally related to all the other Ones—while in Other-being the whole nature of the Something was found it its Other.

We now pass to the last division of Being-for-Self, which is

C.—Repulsion and Attraction.

(*a*) *Exclusion of the One*

(G. L., 190). This is a restatement of the category of Many Ones, which, as was said above, involves the Repulsion by each One of the rest of the Many. But what is the nature of this Many which the One repels? They are other Ones, and thus the One in Repulsion only relates itself to itself (G. L., 192). The Repulsion thereupon becomes Attraction, and the Many Ones come together in a single One.

We saw, when considering Being-for-One, that the relation between the One and the not-One, however negatively it might be conceived, was still essential. And now its very character of negation and repulsion converts it into its extreme contrary—a single One in which all the Many are merged. For it was the negative and repulsive characters of the relation which deprived each One of any distinguishing quality. And it is just the want of distinguishing quality which, when the relation of the Many Ones is seen to be also positive, prevents them from remaining Many, and merges them all in one One.

That the relation should be positive as well as negative is inevitable. For all relation is connexion, and in a purely negative relation there would be no connexion. Indeed, every relation is both positive and negative, for it means that the terms are both united and separated. And thus

unity and differentiation, as we shall find throughout the dialectic, can only be developed together. An excess of either at the expense of the other always leads to an equally unbalanced excess of the second at the expense of the first.

The new category thus obtained is called by Hegel (G. L., 194)

(*b*) *The One One of Attraction.*

It shows itself to be as untenable as its opposite. If there were only one One there could be no Attraction. For what would there be to attract it, or to be attracted by it? And, again, that there should be only one One is impossible, because, as has been shown already, One implies Many Ones.

The truth is, as we now see, that Attraction is only possible on condition of Repulsion, and Repulsion is only possible on condition of Attraction. They must be united, and so we reach

(*c*) *The Relation of Repulsion and Attraction*

(G. L., 195), which concludes the categories of Quality. The last trace of Quality has now died out. It had almost entirely gone when the Somethings had been transformed into Ones, each of which was exactly similar to all the others. But a remnant still remained, in the shape of the Repulsion which each One exercised on all the rest. Now this Repulsion is swallowed up in a balance of Repulsion and Attraction. The Ones have now become indifferent to each other.

And with this Quantity has been reached. Quantity involves that the units should be indifferent to one another—that they should be capable of combination or separation without any change in their nature. This is rendered possible by the indifference which has now been established. The Ones are sufficiently under the influence of Attraction to enable them to be brought together in aggregates. They are sufficiently under the influence of Repulsion to retain their separate existence in their aggregates, so that the quantity of the aggregate varies according to the number of its units.

Quantity requires, also, that the units should be taken as equal to one another. And this condition, also, is satisfied by the Ones, which have no qualitative differentiations, and are all exactly alike. At this point, therefore, the dialectic passes over into Quantity.

IV.—DISCUSSIONS.

ON THE NOTION OF ORDER.

Some years ago I wrote a paper[1] in which I showed that Projective Geometry might be regarded as the science of ordering or 'cataloguing' continuous groups, without necessarily ascribing any spatial import to it at all. In that paper I expressly disclaimed any intention of discussing the subject of Order exhaustively, as I was there concerned with it only for a special purpose, namely, in its bearings on Projective Geometry. I propose here to discuss the question rather more generally; but, as probably few of the readers of Mind have seen the paper referred to, I shall commence by giving an outline of the theory of order I there put forward.

I take it that the ultimate object of arranging things in order, or cataloguing them (whether it is done objectively, or merely in imagination), is to be able easily to find any given thing when it is wanted. By 'cataloguing' I understand associating (or "collating") each unit of a group with a particular unit in some group with whose order we are already familiar; such, for example, as the series of natural numbers, or the letters of the alphabet; or if the group to be 'catalogued' is too dimensional, with the points on a diagram or map, or the series of complex numbers. The theory of order discusses groups of linear or higher orders, and tells us how we may catalogue them by the aid of only one familiar linear catalogue, such as the number series, used if necessary over and over again, instead of having to make use of two or three dimensional catalogues or two or three dimensional groups. I may illustrate this by the analogy of a finite discrete group, such as the books in a library. The librarian does not attempt to make a plan of the library, with all the books marked in their places on the plan, but he provides catalogues showing the book-case, shelf, and place on the shelf, where any required book will be found. In each case the actual order (of book-cases, shelves, or books) is *collated* with a linear order (usually either the number series, or the series of letters of the alphabet) which is so well known that one recognises the order of its units at once. And the simplification of the catalogue has been effected by cataloguing *linear groups*

[1] "On the Foundations of Projective Geometry." A reprint can be obtained from Messrs. Deighton, Bell & Co.

of *groups* instead of attempting to grasp the order of the whole at once.

Closely analogous methods can be applied in the case of continuous groups. A higher group is catalogued as a *linear group* of *groups* of an order one less than that of the whole. Each of these sub-groups is again catalogued as a linear group of groups of an order two less than the whole. And so on; till we reach sub-groups which are themselves linear. But in the case of continuous groups we cannot use a discrete series as a catalogue, and even if we use a continuous one, such as the number series (including fractions), we cannot collate any one sub-group with any number absolutely; we can only say that it is *between* two units numbered so and so; and choose these units so as to attain to any required degree of accuracy. If however we do this, we have succeeded in cataloguing the continuous group, in a manner closely analogous to the cataloguing of a library, in a way which can in practice be made accurate enough to fulfil any practical, or in theory any theoretical, requirement.

But what precisely is the significance of the relationship "between two units"? It is upon this that the whole theory of Order depends. To say that B is 'between' A and C means that *it is impossible to get from A to C without passing B on the way*. This of course implies that there is some sort of rule in accordance with which alone one may pass from A to C, which may be called the rule of contiguity or continuity. The process of passing in accordance with this rule I call 'passing in review'.[1] In the case of discrete groups it consists theoretically of thinking of units one after the other, the rule of contiguity being that after any given unit you must think next of one of a certain limited number of units which are said to be 'contiguous' to it. (In linear groups only two units are contiguous to any given unit; but in the order of a chess board, for example, there are four, or you may allow six if you permit a king's move, etc., etc.) It is not however necessary in 'passing in review' always actually to think of each unit passed, in order to convince oneself that it is, or is not, possible to pass a given boundary, even in the case of discrete groups. And in the case of continuous groups, where the rule of *contiguity* becomes one of *continuity*, it is neither necessary nor possible to do so, although continuity is merely an ideal limiting case of the conception of contiguity.

[1] It is true that in 'passing in review' we are collating a series of units with a series of instants in time, which latter series is one of the sort discussed by Mr. Russell, in which the fundamental relation may be taken to be an asymmetrical transitive one between any two units. But this relation does not hold among the units we are passing in review; we may just as well pass in review one way or the other, forwards or backwards. The relation 'between' involves at least four units, two to form a boundary and two to be separated by it, even in a linear group.

In continuous groups then, *to say B is between A and C means that B divides the whole group under discussion into two distinct parts, so that it is impossible to 'pass in review' from any unit, A in the one part to any unit C in the other, without passing B on the way.* B itself, therefore, is not a unit, but a group of units, and in general a continuous closed (or 'complete') group of units, which forms a *boundary* in the higher group, and is said to be of an order one less than that of the higher group. An exception may perhaps be mentioned, in the case where the higher group is a terminated group; when the boundary group, B, may also be terminated. But this is not quite a genuine exception, for the terminal units in the whole group themselves in reality form a boundary which completes (or closes) the boundary group B. And we may always theoretically conceive the whole group to be completed by adding units beyond the terminal ones. (For this reason, as well as in order to avoid spatial implications, I prefer to use the term 'complete group' for one whose spatial analogue is a closed line or surface.) It might further be thought, from a fancied geometrical analogy, that another exception arose in the case of groups which were 'infinite and unbounded'. But this is not so. In the science of order there is no meaning which could be attached to such a phrase. In one sense, of course, all continuous groups are infinite; for we can always conceive any number of boundaries between any two named units. But since, in theory, 'passing in review' does not take time, and since units are not in theory separated by space, there is no sense in which we can say one group is more or less infinite than any other of the same order. We can not, in passing in review, fail to get back to the unit from which we started merely because it is too far to go. There is therefore no alternative to a terminated (or bounded) group except a complete (or closed) group.

There is however one exception to the dictum that boundaries are complete continuous groups, namely in the case of groups of the first order (linear groups). In this case, if the group itself is complete it will I think at once be obvious that a boundary can only consist of two distinct units. And as I have pointed out above, in the theory of Order the only alternative to a complete group is a terminated one—*i.e.* in the case of a linear group one which is terminated by two units. In such a group one does indeed speak of one unit B as between two others, A and C; but only by tacitly including the terminal units with the B as part of the boundary which separates (or is between) A and C.

In the case of complete groups of the first order the conception of boundaries is further obscured by the fact that a boundary consists itself of two units, B and D, separating two, A and C; so that we may equally well speak of A and C as a boundary, separating B and D. In this case therefore the primitive relation from which order develops appears as a symmetrical relation between two pairs of units, and the fact that one of the pairs is

a group and the other two units occupy distinct places in the relationship is liable to be overlooked. In the general case however where the relation is between two units and a continuous group of units, this sort of symmetry does not exist, and the confusion of boundaries and units separated by them does not occur.

The theory of Order depends then upon the question whether in any given case one can, or can not, while passing in review, get past 'boundaries,' without making use of one of their units on the way. The fundamental proposition of the theory is that the order of units (as determined by boundaries) is unaltered by Projection. I prove this by imagining a 'section' of the projecting pencil to pass continuously from the initial to the final position (or rather I 'pass in review' a continuous series of sections from the first to the last, as the conception of movement has no place in the theory of order). I show that in doing so, unless the section under review passes over the origin of projection, the order of units in it is absolutely unchanged; but that if it does pass over the origin, then every unit in it passes through the origin and through every boundary in the section at the same time; and the new order (though it is intrinsically indistinguishable from the old one) may be said to be the old order 'reversed'. And taking the term 'Reversion' in a more general sense I use it to describe a process in the theory of order which turns out to be the analogue of rotation in Geometry. In the simplest case, of reversion in a group of the first order, this process may be effected by what is known in projective geometry as the Quadrilateral Construction. This construction is however only a special case of a more general process, the object of which is to collate together, with the fewest possible arbitrary assumptions, the units of all the rays of a pencil with a given origin, so that units collated together in the various rays form continuous boundary groups, together constituting the whole pencil, which groups are catalogued by the units in any one ray. (The analogue in Geometry is the polar system of co-ordinates.)

Thus, by a few simple steps, the theory of Order leads us to understand the true significance of that famous Quadrilateral Construction. It is not, as some people seem to imagine, that without it points in a line would have no order, or that the orders of points in two different lines could not be compared; for this could be done by simple projection. Nor is the object of the construction merely to lead up to numerical analysis. The use of the construction, or rather of Reversion, in general, of which it is merely a special case, is to enable us with the fewest possible arbitrary assumptions, to catalogue a group as a linear group of boundary groups, in the same way as a library is catalogued as a linear group of book-cases, each of which is a linear group of shelves, and so on.

The theory of order thus briefly described may be carried out

with certain variations in detail which correspond to the various systems of meta-geometry; and the consideration of these variations is instructive as showing that the distinctions between the various meta-spaces are cognisable by the theory of order, or projective geometry, and do not depend upon metrical conceptions, or even numerical analysis. On the other hand the subsequent transition from the abstract theory of cataloguing to the application of the number series, which is readily made, further illustrates the importance of this conception of Order to the mathematician. The simplification which it would introduce into ordinary elementary geometry is no less marked. As Mr. Russell has recently pointed out,[1] many propositions in Euclid's first book (and he might have added with even more effect several in his eleventh book) imply axioms which Euclid has not explicitly stated. But Mr. Russell himself will admit that the axioms he proposes are mere clumsy makeshifts. They are all obvious deductions from the conception of order, and what is required is proper definitions of the terms line, surface and space, either by means of the notion of order as defined by boundaries, or by means of the conception of direction (as to which, see below).

This is the outline of the theory of Order which I advanced in my paper on the "Foundations of Projective Geometry" in 1897. The paper was written in the form of a criticism on Mr. Russell's book on the *Foundations of Geometry*, published the same year. The point in his book to which I particularly took exception was his view that so long as points in a straight line "are considered without reference to any other points or figures" (*i.e.*, without a quadrilateral construction) "they are all qualitatively similar . . . when we endeavour, without quantity, to distinguish them conceptually we find the task impossible, since the only qualitative relation of any two of them, the straight line, is the same for any other two". In the discussion which followed the nominal 'reading' of the paper (it was circulated beforehand, and was too long to be read in full at the meeting), Mr. Russell categorically denied that Order had anything to do with Projective Geometry. He has however since written a paper,[2] from which it appears that he has modified this view. In this paper he discusses the kind of order, or rather series, which is generated by an 'asymmetrical transitive relation' R which has two 'senses' R_1 and R_2. The relations 'before and after,' and 'greater and less' are examples, and lead to order in Time and order of magnitude respectively. Mr. Russell also refers to a second way of generating order by asymmetrical intransitive relations—but his exposition seems to me to involve some confusion, for though the relation is supposed to be intransitive, he says, "If E is before F, and F before G, E is said to be before G," thus making the relation transitive after all, and apparently identical with the one he had just been discussing

[1] *Mathematical Gazette*, May, 1902. [2] MIND, January, 1902.

before. The distinction in his mind was perhaps that in the first case he was dealing with continuous, and in the second with discrete groups, but the fundamental relation seems the same in both cases. Besides these Mr. Russell however reeognises, in a footnote, the existence of "four other ways, of less philosophical importance," among which one, with a 'four-term relation' is slipped in, which later on he acknowledges to be "logically prior" to the others in Projective Geometry. This is in fact the relation which I discussed in my former paper, but he refers the reader to papers by Signori Pieri and Vailati, some at least of which were published before my paper, though neither I nor apparently Mr. Russell were acquainted with them at the time. These papers however tell us very little of value about the Notion of Order. They do indeed analyse the relations between points in a line by the methods of symbolic logic. But, as might perhaps have been anticipated, the symbolic logic does not appear to lead to any conclusions which might not have been reached as easily by less pedantic methods. The authors do however grasp the conception of order among points in a line as depending upon at least *four points*, two of which *separate* the other two, and they realise that this is the relation which is unaltered by projection. Of the extension of this conception of order to more than linear groups, of the generalised conception of a boundary, as a group of units, of the true significance of the quadrilateral construction, of the bearing of the theory upon meta-geometry, they however tell us nothing. Still less do they employ the conception of order to *define* linear or higher groups, or deduce from such definitions the fundamental proposition that 'order' is unaltered by projection. If they had done all this perhaps Mr. Russell would have recognised the philosophical importance of this particular notion of order; for in spite of his having been present at the meeting where my paper was (nominally) read, I can only conclude that he is ignorant of its contents.

Though Mr. Russell, as quoted above, says in one place that in Projective Geometry the four-term relation is logically prior to the two term, he, in another place, tells us the former can be 'mathematically reduced' to the latter, in support of which statement he refers to Vailati's paper. There must however be some mistake here, for that is not at all what Vailati does in his paper. He 'reduces' the four-term relation to seven, and subsequently to five, formal propositions in symbolic terms, but in each of these propositions four terms occur. It is of course true that in a series generated by the four-term relation we can subsequently recognise an asymmetrical relation between any two terms, but it can only be expressed by referring to more than two. Instead of being able to say XY has the sense R_1 or R_2, which are fundamental relations, we can only say it has the sense ABC, or CBA, where A, B, and C are three known terms in the series. It is also true that if we are given the relation R with its two

senses to begin with, we can generate a series in which we can afterwards recognise order of the other kind, as expressed by the relation 'between'. But in three out of the six or seven examples of order given by Mr. Russell we have not got an asymmetrical relation to begin with, and can only introduce it afterwards as a consequence of the four-term relation. In the case of Space more particularly Mr. Russell appears to have fallen into some confusion on this point. There is no intrinsic asymmetrical relation between two points in a line, or in space. Such relations as East and West which Mr. Russell instances, or Right and Left, or Forwards and Backwards refer implicitly not only to more than two points, but to points outside the line, and particular objective bodies with reference to which the points occupy definite positions. The conception of sense in a projective straight line to which Mr. Russell applies (in my opinion misapplies) the term 'direction' can only be defined by naming at least three points in it (as indeed is recognised by Pieri).

But the real fault in Mr. Russell's treatment of the subject (and the same might be said of that of Signori Pieri and Vailati, were it not that they do not profess to be discussing the notion of order generally) is that he confines his attention solely to linear, or serial orders. He describes well enough one way in which a serial order can be generated, but though he gives a logical analysis of the generating relation in this special case, he does not seem to have grasped the significance of the notion of 'sense' at all. He says, "Order depends fundamentally upon relations having what mathematicians call *sense*, *i.e.*, such that the relation of A to B is different from that of B to A" and he illustrates this by saying, "if there be any relation R which has two senses R_1, R_2 . . . ," and so on. But why should we not have a relation R which has more than two, or an infinite number, of senses; of which R_1 and R_2 are only particular cases? There is such a relation, namely, the relation of Direction, not in the emasculated sense in which Mr. Russell uses the term in his paper (which, as I have shown, is dependent upon the other conception of order, as defined by boundaries), but in the sense in which it is used in Vector Geometry. It is true that to develop this conception beyond the case of a linear series, which is as far as Mr. Russell gets, we require in addition another conception, whose validity, or even existence, Mr. Russell is disposed to doubt; namely, the conception of Distance, or difference of Position. These two conceptions are in fact correlative; and, logically defined, they lead unambiguously to Euclidian Geometry,[1] just as the other notion of order, depending upon the relation 'between,' leads to Projective Geometry. That the two ways of generating order are indeed intimately connected is shown by the fact that projective geometry has historically developed out of Euclidian, and by the fact that all propositions in the one geometry have their counterparts in the other, and *vice versâ*. But philosophically the

[1] See my *Foundations of Geometry*, Deighton, Bell, 1891.

notions are nevertheless distinct and independent. Conceptual, that is three dimensional Euclidian, space, is one thing and so-called meta-spaces and projective geometry generally are quite different things. They are not intrinsically spatial at all. The theory of them is the theory of cataloguing continuous groups. It is only because Space happens to be such a group that the theory applies to Space as a special case.

It is not worth while discussing whether the term Order applies more properly to the conception based on the relation 'between,' or to that developed from the conception of a two-term relation having 'sense,' or direction. Nor does it much matter whether the two-term relation or the four term is psychologically prior, since they are independent of each other. But I cannot admit that the latter relation is philosophically of less importance than the former; and, if it is not so well understood, that is only another reason why philosophers should devote attention to it.[1]

[1] On p. 48 of my former pamphlet I wrote: "Thus in the end we have to choose n arbitrary units ($P_1\ P_2 \ldots P_n$) or ($P_1\ Q_1 \ldots Q_{n-1}$) besides the $(n+1)$ units ($O_1\ O_2 \ldots O_{n+1}$) to determine the collection completely." It is however to be observed that the units $P_1\ P_2 \ldots$ or $P_1\ Q_1 \ldots$ were chosen each in an already fixed U_1. Each choice therefore afforded only one degree of freedom. In the notation I employed R was the U_0 common to $O_3\ P_1$ and $O_2\ P_2$. Now if this unit R had been chosen arbitrarily in the U_2 ($O_1\ O_2\ O_3$) it might have determined both P_1 and P_2, or P_1 and Q_1, the choice of R admitting two degrees of freedom. Similarly a single unit R_{n-1}, chosen arbitrarily in the whole group (but not in any of the boundary groups determined already), might determine the whole of the units ($P_1\ P_2 \ldots$) or ($P_1\ Q_1 \ldots$); the choice admitting of n degrees of freedom.

But further we may note that, unless it is desired to collate the units with respect to some already known catalogue, it is not necessary to determine both P_1 and P_2 absolutely, but only to fix the relation between them by which they are collated together. This relation is the same if R is any unit whatever in the same ray through O_1. It is thus sufficient for what I may call an *intrinsic* catalogue to select, not a unit R_{n-1}, but a ray ($O_1\ R_{n-1}$), and this choice admits of $(n-1)$ degrees of freedom only. It would however be necessary to select further a particular unit in this ray if we wished to collate the units with an *extrinsic* catalogue—such as the number series.

Perhaps I can make this clearer by a quasi-geometrical illustration. Let us suppose that in space we have the power of moving a foot-rule parallel to itself, or along its own length, but cannot rotate it. We have then no means of comparing the *scales* of measurements taken in independent directions, except by projection. In order to determine the scales of measurement we may choose points at unit distance from the origin in each of the three principal axes. But we might determine these three points by choosing arbitrarily a single unit (R_2) *not* in any axis or axis plane. And further if it was not required to determine an absolute scale of measurement, but only a relative scale for the three axes, it would be enough to choose arbitrarily the direction of R_2 from O_1 which would admit of two degrees of freedom instead of three. Thus, in accordance with this analogy, the units $P_1\ P_2 \ldots$ chosen arbitrarily after determining the axes may appropriately be called the "scale units" of the catalogue.

EDWARD T. DIXON.

CLASSIFICATION OF PSYCHICAL PHENOMENA FOR EXPERIMENTAL RESEARCH.[1]

THE classification which we offer does not pretend to be a theoretical classification based upon a complete preliminary acquaintance with all the elements which may enter into it.

It is a practical classification especially intended for experimental work; it is to be regarded as a framework for the subsequent study of its various constituent parts.

This classification has, therefore, a provisional accuracy for the purposes of study, and does not pretend to attain to absolute truth, which is unnecessary for its experimental value.

Up to the present time, we have been almost entirely restricted to the narrow framework of classical psychology; even those who have combated most energetically the old theory of faculties none the less submit to it, as soon as they cease to confine themselves to negations and attempt positive constructions of their own.

Thus, after many attacks in matters of detail, we may say that the classical psychology still rules and continues to impose its governing conceptions. Problems and questions are always formulated in the same way; and the chapters which treat of attention, of memory, of association of ideas, of the sentiments and of will are always in the same place, and we are so much accustomed to this classification that we practically accept it without discussing its foundation.

It is strange, seeing that psychology treats of the facts of consciousness, that we should be so much taken up with the more or less complex operations which involve states of consciousness as their components, and so little occupied with the states themselves and their characteristics.

We know that a physical, chemical or physiological phenomenon has each its own characteristics. Ought not a psychological phenomenon also to possess such characteristics, and if it does, what are they?

That is the fundamental question of psychology, the foundation on which the whole edifice should be based. Now, that is the only question whose depths we have forgotten to plumb.

The essential starting point, therefore, is to define what is meant by a state of consciousness and to determine its characters; and it is from the development of these characters that all psychological operations proceed, and not from new processes, superimposed, and, as it were, born of nothing. It is in the play of these well-defined elementary phenomena that the ultimate complexities of the intellectual life will manifest themselves.

[1] The substance of this article formed the subject of a paper read before the Physiological Congress of Vienna, 1901.

Psychology is the science of the phenomena of consciousness.

What, then, is a conscious phenomenon? The psychical phenomenon is not independent of physiological phenomena any more than a physiological phenomenon is isolated from physical and chemical phenomena and presented as something self-complete; but just as a physiological phenomenon is differentiated from physico-chemical phenomena by the practically irreducible element —life, so the psychological phenomenon is distinguished by another irreducible element—consciousness. A physiological phenomenon is a physico-chemical phenomenon plus life; a psychological phenomenon is a physiological phenomenon plus consciousness.

Again, in the same way as life animates physico-chemical phenomena, consciousness illumines, so to speak, physiological phenomena. In short, we may define the phenomenon of consciousness by saying that it is our method of recognising physiological phenomena, or, at least, certain of them. In each physiological phenomenon, everything is presented to us except the awareness of the phenomenon, and this is the subject-matter of psychology. Often, too, when we are unable to study physiological phenomena directly, because they are too complex and too difficult to be reached by experiment, we have the means of studying them indirectly by the peculiar mode of apprehending them which the subject of them himself possesses, that is to say, by the psychological phenomena which, in themselves, are capable of being studied experimentally.

When we speak of the phenomenon of consciousness as our way of being aware of physiological phenomena, we do not mean to introduce personality, although the exigencies of language make it appear as if we did so.

This mode of cognition does not imply a cognitive subject, or, at least, a subject external to the particular object cognised. The state of consciousness is itself that which knows, and the physiological phenomenon which constitutes it is that which is known. We may say, therefore, that it is a phenomenon of "auto-cognition". It is for this reason that physiological phenomena not cognised by our "ego," and taking place outside it, cannot be styled unconscious, as, with the utmost impropriety, they have been for a long time past.

There is no absolute beginning, and every phenomenon which becomes conscious has been so before, and has never ceased to be so. There cannot be any difference except one of degree, and there is still no valid objection to the law of continuity of Leibnitz. At the same time, there is a difference depending on a confusion of terms, for we do not call anything conscious which is not cognised by an "ego". Introspection, being supreme, and exclusively mistress of the position, has declared that only the elements recognised by it were conscious, everything else being non-existent for it; and yet these neglected elements have a capital importance in psychological life, as has been abundantly demonstrated during

the last few years; and they have also the same characteristics and follow the same laws as those which are considered conscious by introspection.

Still, as introspection must not be entirely neglected, far from it, and as the fact of a phenomenon being recognised by it or not is of real importance, we may translate this slight difference in terms by adopting the word *conscious* to designate phenomena cognised by the "ego," by synthesis, by personal consciousness; and *subconscious* to designate those which are not thus cognised, which are external to the "ego," and, as it were, "beneath" it. But, we repeat, these phenomena, conscious or subconscious, possess the same characteristics, and obey the same laws.

Understanding "state of consciousness" in this sense, what are its fundamental and irreducible characteristics?

1. Intensity. The first of these characteristics is quantitative, it is that of Intensity.

Every state of consciousness has a certain force, a certain intensity; it is either faint or lively. But a state of consciousness may be of two kinds: either it is new and presents itself for the first time, or it has appeared before, and merely repeats itself, in which case it is an old state which revives and renews itself.

The intensity of the new state of consciousness, then, we will call *attention*, giving the name of *memory* to the intensity of the old state at the time of its reinstatement. In this way, attention and memory appear to us to be capable of existing as simple elementary phenomena.

2. Characteristic. Affectivity.

Our second characteristic is not quantitative but qualitative, and is that of Affectivity. Every state of consciousness is invested with a certain affective tone, which we call pleasure or pain.

3. Characteristic. Objectivation.

To these characteristics, quantitative and qualitative, which are undeniably present, we have to add another, the tendency natural to every state of consciousness, to objectify itself.

It is well known that, when there are no "reducing" factors, every image has a tendency to become external, to appear real; every idea to be realised, executed, transformed into action. A visual image seems to have an external objective reality, and a muscular image gives birth to a real objective movement. This self-realisation, this objectivation, is a rule, or, more properly speaking, a characteristic common to all states of consciousness in proportion to their quantitative characteristic of intensity. It is only the struggle between tendencies, necessarily incompatible with one another, which prevents any particular tendency from being fully actualised. This characteristic of motor objectivation may be termed *will*. Here again, this is not that complex phenomenon which appears in the contents of the manuals of psychology; we employ the word because it is from this characteristic that the complex operation itself proceeds.

When the form of objectivation is sensory, in the experimental sense of the word, it may, with the same reservations, be called *certitude*.

In the first case, there is a self-realisation, a tendency which takes effect in the production of an object; whilst in the second case, there is an independent reality which imposes itself as external to the subjective characters of the process, a belief dependent on the existence of the object.

Inasmuch as the different characteristics of a conscious state are not external to one another, but mutually interpenetrate, we are able to note an influence of affectivity on the tendency to objectivation, which invests its quantitative characteristic of intensity with another that is qualitative, *viz.*, that of significance.

The tendency to objectivation, positive in the case of pleasure, is negative in the case of pain. The will presses, in the first case, towards a positive action of realisation, and, in the second case, towards a negative action of suppression, towards negation; the objective characteristic of pain manifests itself in the same way as that of pleasure, but the one aims at continuance and increase, the other at diminution and suppression.

4. Characteristic. Affinity.

Finally, alongside this characteristic of objectivity, we find the last characteristic, still one of tendency, but no longer of tendency to objectivation—this time it is a tendency towards association. Strictly speaking, this tendency is unable to manifest itself in an isolated state of consciousness, like the other characters, in the isolated state it is only potential; it develops itself, however, as soon as a second state of consciousness appears alongside the first. In the same way, two chemical substances which have a tendency to unite cannot display this tendency while they are isolated; but the tendency develops itself as soon as the substances are brought together.

This fundamental characteristic of states of consciousness we shall call *affinity*, from its resemblance to the chemical phenomena bearing that name. For this new word we have, the philosophical authority of Kant, who has already employed it;[1] he calls affinity (*affinitas*) a sensory, productive faculty, alongside those of formation in space, and of association in time. We do not give the word affinity the same meaning as Kant, but a wider one. What we call affinity includes his affinity and his faculties of association and formation. Here, too, we must preserve Kant's distinction between the faculty of formation in space and that of association in time, for it is well founded, and answers to a needful division of our characteristic of affinity.

Affinity is, in fact, either purely discursive, as when one state of consciousness arouses another which takes its place, this again another, and so on, like transmission in a magnetic chain, but

[1] Kant, *Anthropology*, xxxi.-c., pp. 94, 95. Tissot's Translation, Paris, Lagrange, 1863.

preserving the distinct individuality of each state of consciousness which does not persist but vanishes as new states appear, or else it is association in the Kantian sense, a truly synthetic process in which one state of consciousness arouses others which become united with it, form with it a group of a certain unity, and crystallise round it, if we may again employ an expression taken from the language of chemistry, seeing that it is principally in this that chemical affinity consists; and this phenomenon Kant called formation in space, because it is a simultaneous combination.

It is this last kind of affinity which is the most important in forming the complex constituents of psychological life. It is by means of this that the simple state of consciousness (the image) acquires complexity, and becomes perception and idea; that the phenomena of attention and will attain their full development; and that, finally, personality is evolved. Also, this synthesis of simple elements, as in chemical compositions, will be very different from the elements composing it, of which it is not the sum, but really the combination, and this will elucidate many psychological obscurities. Affinity, like the tendency to objectivation, possesses the qualitative and quasi-affective character of significance; it is positive or negative; there are elements which attract and others which repel; and it is the laws of these phenomena, partially taken into account, which have been called the laws of association of ideas. This is a point for later discussion. Meanwhile, we shall try to show how the whole of psychology is built up from these broad and simple foundations. We have replaced the pyramid on its base.

We have said that we must set out from the simple state of consciousness, and that the development of its characteristics will give us all psychological operations. But where are we to find an absolutely simple state of consciousness?

Sensation has generally been regarded as presenting this irreducible simplicity. But is it really so? It would appear not.

Let us take an auditory sensation ordinarily regarded as simple. We know that this sensation is excited by a certain number of acoustic vibrations succeeding one another. The sensation then, being single, must condense these several vibrations in a unity. We know, besides, that when the number of vibrations per second is too small, this condensation is not produced. There are cases in which we can detect the condensation as it were in the act of taking place. If there is a certain interval between successive vibrations they give rise to distinct sensations, but if we bring them continuously nearer to each other in time there comes a moment in which there is only one sensation, one simple sound, different, and, in a manner, new. In this case, there has certainly been a condensation. We may demonstrate the same phenomenon in other kinds of sensations. We need only refer to the disc displaying the colours of the spectrum, which, directly it attains a certain velocity, gives to the eye a single sensation of white.

We need not discuss the physiological reasons for these facts which we are examining only from a psychological point of view.

We see, then, that sensation is a synthesis, seeing that we can reconstitute it ourselves, to a certain extent, by making the synthesis. And yet, although it is a synthesis, it appears incapable of analysis and therefore simple. What is the reason of this? It is because our analysis deals only with conscious sensations, that is, those which can be recognised by personal consciousness, while subconscious sensations escape us. Now, there are subconscious sensations. Reason assumes their existence, and experience proves it. Reason assumes their existence, relying upon the law of continuity of which we have already spoken : *viz.*, Nothing comes into being suddenly, without having been more or less definitely prepared beforehand. When the vibrations become rapid enough to give birth to a single sensation, can we admit that this sensation is suddenly created, without existing in a previous preparatory stage? The fact alone that the threshold of the sensation is variable, being higher or lower according to the condition of the subject, his attention or inattention sufficiently answers this question.

What would cause the birth of the sensation to be sooner or later if it appeared suddenly? We must certainly allow that, before there is any sensation of personal consciousness, there has been a subconscious sensation. That which takes place as the conscious sensations blend into one, ought also to occur in the case of the subconscious sensations at the moment when they reach the threshold, which is variable, of personal consciousness. This abundantly justifies the view of the great Leibnitz, who, at a time when psychology had only a rudimentary existence, understood that, when we have one single sensation of the sound of the sea (to take his example), a fusion of sensations must have taken place, which he declared to be unconscious, giving them the name of "little perceptions," sensations corresponding to all the multiple sounds attributable to each wave, whose voice takes part in the general clamour. The existence of subconscious sensations has also been made clear by accurate experiments on olfactory sensations, and on the disappearance of sensations answering to persistent excitations. The complexity of the conscious sensation, then, has been made quite clear both by synthesis and by analysis. Even the subconscious sensation itself is not, perhaps, absolutely simple.

We have always spoken, in classical psychology, of the difficult problem of the general idea. But sensation is a general idea; at every stage it is a synthesis; it simplifies and condenses; the complexity of the physiological phenomena is expressed and made known by a more simple state; the complexity of subconscious phenomena, too, is expressed by a conscious phenomenon which is single and therefore more simple. Thus, at the point where we are obliged to begin these psychological studies, we have already

behind us what we shall meet with in due course as we go forward. We are at one point in a curve, of which we cannot see the beginning, but which, we know, obeys the same equation, and follows the same laws before it reaches us as after we have reached it; and it is its development that we are to follow.

And now we are able to answer the question: What is an absolutely simple state of consciousness? It is a subconscious state which evades our direct investigations. But we can begin with a condition that is practically simple and irreducible, and that will be the conscious sensation.

Without forgetting that the sensation itself is formed by the development of the primitive characteristics of the elementary states of consciousness, we shall treat it as being the psychical atom, with which we may build up, by synthesis, the psychological elements in all their complexity, returning always to it, in our analysis of complex elements. And we may do this without scruple. For even the atom of the chemists, which eludes their investigations whereas the sensation is perceptible to us, can no longer be considered by them as simple; they are obliged by facts to regard it as a system and a synthesis.

The conscious sensation, then, is the elementary psychological phenomenon. But there are different kinds of conscious sensations:—

- Internal Sensations (corresponding to the internal excitations devoid of specific quality):
  - Mucous.
  - Muscular (effort, fatigue, etc.).
  - Osseous.
  - Visceral.
- External and Relative Sensations (corresponding to the external excitations affecting the organs of special sense):
  - Tactile
    - caustic.
    - electric.
  - Olfactory
    - salt.
  - Gustatory
    - sweet.
  - Auditory
    - intensity of sound.
    - pitch.
    - timbre.
  - Visual
    - luminous.
    - chromatic.
    - stereognostic.

We find ourselves here in the presence of a certain number of groups of elementary states. We must now examine the characters inherent in them which we have already enumerated. But here a great difficulty presents itself. As soon as we seek to abstract one of these fundamental characteristics in order to study it by itself, we find ourselves obliged to imply a cognisance of all the others. This is a serious complication, which appears very difficult to unravel. We shall, therefore, try to classify a little, at the risk of not being perfectly true to reality.

And first of all, briefly, what are the essential points which must be made clear before commencing our more detailed study?

It must be noted, in the first place, that it is impossible, in effect, to study states of consciousness in absolute isolation from one another, for it is never the case that there is only one single state of consciousness in the mind. So, then, the characteristic of affinity, which is not of much importance in the study of a state of consciousness taken by itself, is, on the contrary, paramount in actual psychological studies, for it is constantly implied by the co-existence of multiple states of consciousness.

Furthermore, though a sensation is indeed practically an elementary state, it may undergo a slight modification and take on a different aspect; the sensation which is the response to an external excitation, may, in accordance with a characteristic which we have pointed out, repeat itself, after having existed as a new state of a certain intensity, and become an old state, with a certain intensity.

Now, when this state renews itself thus, independently of any external excitation, we no longer call it sensation. And as, among the various states which co-exist within consciousness, it is the renewed states which are the most numerous, the number of co-existent states being very limited, there is a reason for assigning to them, from this time onward, their proper place.

We call these revived states *reminiscences*, and the series of operations which govern their revival, *memory*.

As for these two characteristics of affinity and memory, we can henceforward make it clear that it is in them that we find what is really fundamental in psychological life. In fact, states of consciousness do not remain side by side without recognising or influencing each other, like indifferent strangers. They have relations *inter se*, relations of affinity, without which no psychological operation can take place.

On the other hand, states of consciousness are not meteors which appear and disappear without lasting, or leaving a trace behind them. They do not vanish for ever, or the relations of affinity would be passing and fugitive. There would never be any connexion between the old states and the new which would totally ignore the old; there would be nothing but, as it were, a series of fragmentary moments, strangers to one another. There would occur, in the domain of time, what, without affinity, would happen, to some extent, in space. Without affinity there would be no unity, without memory there would be no continuity in psychological life; and as psychological life implies necessarily unity and continuity, we may say that without affinity and memory no psychological life is possible.

We proceed, then, in the first place to show what the development of this characteristic of affinity will bring about in psychical life through the interaction of the states of consciousness to which we give the generic name of *images*.

If we study synthetical affinity, we see that the *sensations* which arise within a given time have a tendency to combine, and to form a whole, which we call *perception* of an object, which, if it be

complete, comprises visual, auditory, tactile, thermal, muscular, olfactory and gustatory sensations, or, if incomplete, perhaps only a few of them.

We have here a new state which is a true unity, for it arises, not from an agglomeration of sensations, but from a real synthesis. And this condition may serve as a foundation for new syntheses, all being practically simple, like sensation, only one step higher on the psychological ladder.

Perceptions also which are present together act and react on one another in virtue of their positive or negative affinity. There are further groupings and syntheses: the perceptions of different objects unite and form a state which is called *idea* or *conception*, which represents the fusion of a great number of perceptions.

The notion or idea of a man or of whiteness results from a great number of perceptions of men of all kinds or of various white objects.

Conceptions themselves attract or repel each other, but their action is not limited to themselves; the other conditions of consciousness, the other images of psychical life, even perceptions and sensations are not excluded. And the complex play of the affinities of all these states presents two forms, two different degrees: *judgment* and *reason*. Judgment and reason appear as special constructions of the mind; they do not seem to result, like perception or even conception, from the simple action of external objects. As a matter of fact, even for the formation of a conception or of a perception, we might say even of a sensation, there must be a special creation of the mind, a peculiar play of conscious states. But this is specially clear when the state which results does not correspond to an object. This has been already seen in conception, and it is observed also in judgment and reason. *Judgment*, therefore, is a certain synthesis of conceptions. But in this case our synthesis is not so perfect, and the simplicity of the state of consciousness is less apparent. The proof of this is that language leaves conceptions disconnected in judgment, whilst it unites perceptions in the corresponding conception. And yet there is a real synthesis in judgment, and, in reality, we may consider that we have again only to do with a single state of consciousness. This is so true that many psychologists, noticing the characteristics of synthesis in judgment, and finding this synthesis in perception and even in sensation, have declared that perception and sensation comprise judgment. This depends on the definition of judgment.

But, when we reach *reason*, which is an attempt at the synthesis of several judgments, it appears that this degree of unity is not attained. In fact, there are really many cases where the terms seem to remain actually disconnected, associated by a discursive affinity, by a passage of successive terms, rather than by a synthesis of co-existing terms. But, in truth, there is generally a partial synthesis, at least, of several terms of the reasoning process, and

sometimes, even, all the terms synthesise themselves into a single judgment which almost takes the form of a conception or of an initial perception.

We have now passed in review all the results of the play of affinity among the states of consciousness, from sensation up to reason, including perception, conception and judgment.

But there is still one synthesis, and one which is essential to psychological life, that is, the synthesis which results in *personality*.

The sensations which co-exist at a given moment seem to furnish what is called "cœnæsthesis," which is a partial synthesis, the germ of that complete synthesis which is personality. When new states associate themselves with the old, there is formed in the mind a certain synthesis, incorporating a great many states of consciousness of all kinds, an association which exerts a positive affinity of attraction in proportion to its mass (if we may use the expressions of physical law) on the new states which may present themselves; which thus become aggregated together, and take on the character of what is called personal consciousness. There are some states which escape this grouping, *viz.*, the subconscious states, which can only be grouped into a new personality if the inhibition exercised by the first personality is very weak, that is to say, if that personality is too poor to exercise a considerable positive or negative affinity.

Personality is a synthesis in the bosom of which the free play of the affinity of the states of consciousness can form or dissolve partial or limited syntheses of a lesser complexity. We may now consider as acquired all the states obtained in this way, and may study what remains to be considered of the other characteristics which should belong to them.

By the side of synthetic affinity is found discursive affinity, commonly called association of ideas, considered as a sort of chain, the links of which are united, end to end, in a single line. It does not seem to us that it is really so, and, in truth, discursive affinity seems to be nothing but an incomplete synthetic affinity. Each state of consciousness ought rather to be regarded as a centre of affinity or of attraction than as a link suspended from others by the two ends.

Association radiates, so to speak, from a centre; but a synthesis does not necessarily result from it because of the inhibitory action and reaction on one another of the competing fields of attraction; and, if syntheses are formed, it is outside the personal synthesis, whose attractive influence dominates all others.

It is in this way that a state of consciousness, which is a centre of attraction internal to the personal synthesis, is able to attract other states, among which one, responding more easily to personal affinity, may serve afresh as a centre of attraction, and so on, thus producing the illusion of the unilateral chain.

We may note, in passing, that this association holds for all states of consciousness, and not only for ideas and conceptions.

After having considered affinity under all its forms, the character that by its importance is the next to claim our attention is *intensity*.

We have stated that every state of consciousness has a certain quantitative value, which we call intensity, whether it be sensation, perception or conception. All these states have an intensity which is, in a manner, intrinsic; but they also possess another which results from the position which they occupy in the various synthetical groups of the mind, especially in the personal synthesis.

Intensity then takes the name of *attention*. Attention is the personal intensity, if we may so speak, of a state of consciousness. Personal intensity may concentrate itself entirely on one state, either because it is nearly alone, or because it is in the true centre of organisation of the synthesis.

Personal intensity varies, for different times and different individuals, and according to the intrinsic intensity proper to the single state, for this also helps to constitute personal intensity. The degree of memory is the personal intensity of old states which unite in the synthesis of the "ego".

Consequently, the intrinsic intensity of each state, whilst it is an important element of personal intensity, of attention or of memory, always remains independent of them.

There is, in fact, no memory except by personal synthesis, for memory is not the simple preservation of remembrances. There is necessarily a return to personal synthesis of the states which formerly belonged to it, resulting from the play of affinity.

Affinity depends, besides, on intensity, which is, if we may say so, the measure of its power of attraction or repulsion. Affinity depends also on another characteristic, *affectivity*, which supplies, in a manner, what is specific or individual in each state; it is that which renders affinity attractive or repulsive, and consequently presides over the groupings and the syntheses. It is the qualitative characteristic of the states of consciousness.

Without insisting on the delicate question of emotion, we may, however, remark that emotion must result from the relations of the personal affinity and individual affinity of every state which enters into it, by means of the attraction localised in one of the states constituting that synthesis.

Finally, the last characteristic is that of *objectivation*. It is by means of this that all states of consciousness attain their ends and realise themselves. This tendency often governs certain groupings and certain syntheses. It is, so to speak, the further development of affinity—a teleologist would say its end.

Perception is the objectivation of sensations. Judgment is the objectivation of conceptions. Many psychologists, as we have already said, declare that there are judgments in sensation and in perception.

We may say that there is in all these syntheses what we find also pre-eminently in judgment, *affirmation*, which is the manifestation of this very character of objectivity.

But objectivity plays an especially great *rôle* when it becomes personal objectivity. To it belongs constructive imagination, personal and voluntary, this word voluntary expressing what is objective in personal synthesis. All mental constructions under the form of images, judgments or reasoning, true or false, proceed from this character.

And the affectivity of the states, which acts on objectivation, is reacted on by it; for all these characteristics are, as we have said, in a constant state of reciprocal action and reaction upon each other.

Four new psychological manifestations result from this interplay, four complex characteristics of certain states of consciousness. These are, for objectivity under the form of a tendency towards reality, *belief*, still disputed; *certainty*, no longer doubted; and, under the form of a tendency to realisation, the parallel characteristics of *desire* and *will*.

We cannot here enter into details, and show that our language and our manner of interpreting and expressing psychological phenomena is equal to the most delicate manifestations. We content ourselves with offering this general classification as a framework capable of supporting researches in experimental psychology, for which we seek to furnish the instruments and the methods.

TOULOUSE, VASCHIDE ET PIERON.

V.—CRITICAL NOTICES.

Dictionary of Philosophy and Psychology: Including many of the principal Conceptions of Ethics, Logic, Æsthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science, and Education; and Giving a Terminology in English, French, German and Italian. Written by Many Hands and Edited by JAMES MARK BALDWIN, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University, with the Co-operation and Assistance of an International Board of Consulting Editors. In three volumes, with illustrations and extensive bibliographies. Vol I. New York: The Macmillan Company. London: Macmillan & Co., Limited. 1901. Pp. xxiv., 644.

To criticise a book of this kind is not an easy task. In the first place, the work is very bulky and, as its quaint title-page indicates, of very miscellaneous contents. In the second place, it is as yet incomplete, and many articles cannot be fairly judged till they can be read in connexion with other articles which are referred to in them, as supplementary or explanatory; and, in particular, for fuller bibliographical information we are referred to the third volume. Lastly, the value of a dictionary and the merits of its different portions can only be properly tested by repeated consultation and, above all, by seeing what results follow from the use made of it by students, who will resort to it as a convenient short cut to knowledge or as a guide to further study. Thus, whatever I venture (and I can only speak for myself as yet) to say on the matter now must be regarded as subject to reconsideration; and I may add that I am seated most unwillingly in the judgment-seat of the critic, driven there by the pressure of the Editor of MIND. Had I been able to carry out what I once promised, I should myself have been amongst those in the dock.

In the endeavour to judge fairly we must note first the special objects which Prof. Baldwin has had in view in undertaking so extensive and laborious a work. "Two purposes," he says in the "Preface," "are combined in it, which may be distinguished without attempting to decide which was more important in the

execution; first, that of doing something for the thinking of the time in the way of definition, statement and terminology; and second, that of serving the cause of education in the subjects treated." As to the second of these purposes we are told that the dictionary "aims to state formulated and well-defined results rather than to present discussions". It is on pedagogical grounds that the Editor justifies the inclusion of many subjects which are not philosophical, but are considered useful for the student of philosophy, *e.g.*, a glossary of the nervous system, definitions of physical terms, accounts of biological discoveries. On the other hand we are told, as a reason for limitations, that the work "is not, and does not include, a history of philosophy," though "the writers, one and all, approach their topics from a historical point of view; this is one of the distinguishing features of the work". In especial we are warned not to expect a dictionary of Greek and Scholastic Philosophy. "The student of scholastic thought, as of Greek thought, will find so many gaps that it is only just to our limited purpose to warn him of them in advance. It is a change which has come into the subject—this facing of philosophy towards science and modern life, instead of towards logic and ancient life—and in consciously accepting the change we accept as well the inevitable criticism it will bring upon us." To the present reviewer the criticism is certainly inevitable that it is always dangerous for philosophy to attempt to disregard our intellectual inheritance and that to turn away from logic at all is to court confusion. "It is upon the psychology of this work that most of its lines converge" (p. x.). "Biography is not made a prominent feature—quite the reverse. Only the outstanding biographical facts are recorded, which any reader of philosophy should know, or know where to find, if he is to be educated" (p. xiii.).

Now these principles of inclusion and exclusion have been deliberately adopted; and the work must be estimated on that understanding. Nevertheless the question might well be raised, whether the principles are quite satisfactory. For one thing, though the history of philosophy cannot be properly treated in a dictionary, historical and biographical material admits of fairly adequate treatment in such a work, and is in fact much better adapted for articles in a dictionary than new theories in psychology and in the objective sciences with which psychology comes into connexion. A dictionary on so elaborate a scale ought, it may be hoped, to remain a permanent book of reference for several generations of students and teachers. Now it is possible to supply brief accounts of Greek or scholastic philosophy or of the philosophies of the seventeenth and eighteenth centuries, which may be expected, with a few corrections and some additions to the bibliography, to remain useful twenty or even fifty years hence. But is it reasonable to expect that rather long articles on the accepted psychological theories of to-day—if indeed they are "accepted"—will be equally useful after that lapse of time? It

is more easy to provide a dictionary article that "will wear well" on "Cartesianism" or "Epicureanism," on "Fichte" or "Herbart," than on "Association" or "Heredity," on "Inhibition" or "Laboratory". The more the subject belongs to a new and growing science the less adapted does it seem for dictionary treatment. Still the more difficult course may justify itself as the nobler and the more useful. Let us admit then, that while including a physiological text-book, with diagrams and glossary, on the Brain, and fairly lengthy articles on medical subjects such as epilepsy and hysteria (subjects which are treated in existing Medical Dictionaries and text-books), it is right to cut down the biographical and historical articles to a minimum: it surely becomes of special importance that these brief entries should be as scrupulously accurate, precise and unambiguous as possible. The special students of Greek and scholastic philosophy are warned off and are not likely to be led astray by inaccuracies in their own subjects. But it is just the students who have had no sufficient education in "the humaner letters" and who have been brought up in psychological laboratories, that might reasonably expect to find brief, easily accessible and trustworthy information provided for them here on the subjects in which they have neither the time nor the mental training which would enable them to get first-hand information. For the sake of such students the biographical, historical and linguistic notes, however slight, should have been most carefully put together. A rapid inspection of the Dictionary shows, however, that this part of the work has been carried out in a somewhat hap-hazard way, upon no discoverable system and with insufficient accuracy. Names and terms seem included or excluded on no definite principle. There appears to be no uniformity as to the spelling of names or as to the language in which they are given. Sometimes the works of an author (or some of them) are mentioned and sometimes not. There are numerous articles more appropriate in character and in mode of treatment to a theological dictionary than to a philosophical—articles whose inclusion might indeed be justified if other more properly philosophical material were more adequately treated. Thus we find "Adam" (but not Eve); yet the article does not give just the information which a philosophical student might expect to find in a dictionary "for philosophers," *viz.*, the peculiar way in which the Latin Church made a genitive case in a Hebrew name, *e.g.*, in those profoundly philosophical lines from the Roman ritual which Leibniz quotes in the *Theodicée* (Erdmann, p. 507 *a*) beginning:—

"O certe necessarium Adae peccatum".

Under the heading "Alexandrian School" an account is given of Neo-Platonism, with no indication that many scholars object to the description of Neo-Platonism as specially "Alexandrian," and with no reference to any separate article on the subject,

though under "Eros" and "Cudworth" references to an article on "Neo-Platonism" will be found. In the article on the "Alexandrian School," "Clemens and Origen" are referred to—a want of symmetry in naming. "Clement" is used *s.v.* and in "Christology". "Josephus" is included in this Dictionary of Philosophy, while Hypatia is left out. "Basilides" is given, with no hint to those ignorant of Greek, how to pronounce his name. Under "Alexander" are rightly given Alexander of Aphrodisias and Alexander of Hales. There are also three Alexanders of Princeton, who appear to have been an academic dynasty comparable with the Alexander Monro's of Edinburgh; but nothing is said to show why these three theological professors are included in a dictionary which excludes Chalmers, who was a professor of moral philosophy, Calderwood (though he is rightly mentioned *s.v.* "Intuitional Ethics"), Coleridge, Carlyle, Principal George Campbell (author of *Dissertion on Miracles* in answer to Hume, and *Philosophy of Rhetoric*). Other omissions are Alcmaeon of Croton, Aldrich, Apuleius, Marcus Aurelius, Julian (named in article "Alexandrian School"), Burke, Beccaria (named in article "Greatest Happiness" and in bibliography in "Crime"), Bossuet (though Fénelon is given), Bolingbroke, Culverwel and Glanvill (both named in article "Cambridge Platonists"), Erasmus Darwin, John Grote (though cited in article "Knowledge") Hippocrates (Galen is included), Archbishop King (who wrote an *Essay on the Origin of Evil*). The only Dionysius who receives notice is the Bishop of Alexandria, who was a pupil of Origen, but whose "greatness" is ecclesiastical, not philosophical. There is no article on Dionysius of Halicarnassus (important in the history of Æsthetics) nor on Dionysius "the Areopagite" (he is not even mentioned *s.v.* "Erigena"), nor on Dionysius "the Pervert" (from Stoicism to Hedonism), on whom Bayle has the laconic notice "Denys d'Heraclée, philosophe débauché. Cherchez Heracleotes"—an entry whose stern brevity is indeed surpassed in Addis and Arnold's *Catholic Dictionary* (ed. 1): "Origen.—See Hell."

We might have expected some notice of Fleming, whose *Vocabulary of Philosophy*, though a very imperfect work even in the latest revised edition by Prof. Calderwood—containing some very good articles, and some very defective ones—was an attempt to do in English on a small scale what Prof. Baldwin is doing on a large. The revised Fleming, though not strong in its Greek, might have saved the new Dictionary from the entry under "Academy"—"(Gr. Ακαδέμος, proper name)". "Anaximines," "Andronicus Rhodus," "Iamblicus" need correction. It may be suggested that the best mode of treating proper names in a dictionary for students of philosophy would be to enter the name under its usual English form, to give it in the original language (transliterating, if necessary) and then in Latin, French, Italian and German. This would be carrying out the excellent plan here adopted with philosophical terms, so far at least as the modern

languages are concerned, and would be most useful to the student who might perhaps in reading French or Italian fail at once to recognise "Denys d'Halicarnasse," "Boèce," "Gilles de Rome," "Tale," "Eraclito," "l' Abbate Gioacchino"; and it might save the translators of German works from writing (like the translator of Ueberweg's *History of Philosophy*) in English of Dicaearch, Anton Arnauld and Franz Suarez.

Of "Thomas Àquinas" we are told that he was "of royal family," but the word "Aquinas" is not explained, nor are we told that he was the "Angelic Doctor". The brief article on Duns Scotus is much more useful. There seems to be no principle with regard to the language or languages in which names are given. Thus we have "Ficino (Ficinus) Marsiglio (Marsiglius)," where the Latin surname is certainly not the usual form: "Jerome, Sophronius Eusebius Hieronymus, Saint"—a method of entry which lays a trap for the unscholarly; "Ambrosius Sanctus (or Saint Ambrose)," which is much better; "Hilary of Poitiers, Saint," and "John of Salisbury" are given only in English; "Isidorus Hispalensis" only in Latin. "Goclenius, Rudolf" is a mixture of the Latinised and the German forms of his name. Of "Anselm" it is not even mentioned that he was an Italian. The name of "Averroës" is given with five spellings, but his Arabic name is inserted after "Averroism," as if "Ibn Roschd" translated that term. For "Arcesilaus" Arkesilaus is given as an alternative (which is neither Greek spelling nor Latin), but Arcesilas is not given. Under "Aristocles" there are two philosophers named, but not the greatest: there should have been a cross-reference to "Plato". "Kritias" appears only under K.; "Cratylus" and "Kratylus" (an inconsistent spelling) have separate articles with no indication that they are the same person; and "Kratylus" is described as the pupil of "Heraclitus," so that even the inconsistency of Grote's spelling is not carried out consistently. "Euclid" of Megara is not, perhaps, the form most familiar to English readers.

The brief biographical notices are sometimes exactly what is wanted. "Henry Home," with cross-reference from "Kames," may be mentioned as a model of what such an article should be in order to be very brief and yet "useful and reliable". It gives the absolute minimum of information which is indispensable to the student, *e.g.*, who finds "Home" mentioned in a German work on Æsthetics and may not have heard of an English writer of that name. The articles on "Baumgarten" and "Beattie" are also of the right kind. Under "Baumgarten" there should have been a cross-reference to the article "Æsthetics," where the history of that term is admirably given. The statements in the biographical articles are, however, not always careful. Thus we are told that Roger Bacon and Campanella were "monks". Thomas Spencer Baynes is said to have been "professor of logic at Edinburgh, 1851-55"—an inaccurate statement based probably

on his having been Hamilton's assistant. Under "Fichte" we find: "In 1799, charged with atheism, etc. . . . he resigned his position and withdrew to Berlin, where he became rector of the new University of Berlin". The unwary student would certainly infer from this sentence that the new University was founded in or before 1799; and he is left ignorant of Fichte's professoriate at Erlangen. Of Hume we are told that as Under-Secretary of State he "took charge of Scottish affairs, including the patronage of the churches". The last phrase is misleading. Hume would only have to do with any Crown living that fell vacant while General Conway was Secretary. If something piquant was wanted, it would have been more worth mentioning that St. David's Street in Edinburgh is named after him. The short notice of Ferdinand Lassalle, which does not mention *Herakleitos*, ends thus: "In 1856 he returned to Berlin and lived as a private scholar"—surely the queerest way of referring to the later career of the "thinker and fighter" who was an agitator even as a corpse. A sufficiently brief but more accurate ending would be: "Now the rest of the acts of Lassalle, are they not written in the Book of the Chronicles of Helene von Racowitza and in the *Tragic-Comedians* of George Meredith?"

If we turn now to articles of the class which bulks more largely in the volume and in the eyes of the Editor, "Anarchism," "Apperception," "Associationism," "Category," "Catharsis" (Aristotle's term in the *Poetics*), "Ethical Theories," "Idealism" —articles on very different subjects and by different authors, may serve as specimens of admirable work: they are not too long and give in clear and careful language just the kind of information which a student might reasonably expect to find in a Dictionary of Philosophy, and they carry out the promise of the "Preface" —"to state formulated and well-defined results rather than to present discussions". The articles on logical subjects seem particularly good. Many of them have the signature "R. A."; and to look through them now increases our feelings of the great loss sustained by philosophy and learning through the untimely death of Prof. Adamson. If the logical articles err, it is generally by being just too brief. Thus under "Conversion" the difference between the use of the term "Converse" in logic and in geometry should have been noted. Under "Deduction" we might have expected a reference to Kant's use of the word, in its legal sense —if only to prevent confusion with its logical meaning. (In Prof. Royce's long and admirable article on "Kant's Terminology" I have not noticed any special reference to the word.) "Enthymeme" should not have been derived directly from ἐν and θυμός— a false etymology which countenances the absurdly unscientific and un-Aristotelian use of the term in later writers. In the article it is said that Aristotle's "expressions or illustrations lend themselves readily to that interpretation" (that the enthymeme is an incompletely *expressed* syllogism). In *Anal. Pr.*, ii., 27, 70, *a* 19,

Aristotle notes that in the example given of an Enthymeme in figure iii., one premise is not uttered; but those who lay stress on this seem to have overlooked the fact that in *Rhet.*, i., 2, 1357, *b* 12, the corresponding example is given with both premises expressed. In "*Experimentum crucis*" the word *crux* is not explained, and no reference is made to Bacon's own phrase, which was "*instantia crucis*"; on this there is no article nor on the word "*instantia*" at all. Under the names of the various moods (*Barbara*, etc.) we are referred to article "Mood"; but *Baralipton* is omitted, and the reference *s.v. Dimaris* should be directly to "Mood," and not to "*Dibatis*". In "Division," "*infima species*" is a misprint for "*infimae*". In article "Genus" (portion by Dr. C. S. Peirce) it is said that the Aristotelian rule against cross-division "is signally violated in the modern classifications of chemistry, mathematics, and logic itself". This statement is not explained. "One of the Aristotelian rules of DIVISION (*q.v.*) in logic is that *the differences of different genera are different*, that is to say, cross-divisions are not to be made." Nothing to support the words I have italicised will be found in the article "Division"; and they seem to involve some misunderstanding of the rule against "cross-division". They may admit of justification; but they are likely to confuse the student.

The etymologies of philosophical terms are often given in a misleading manner. Thus terms which come directly from genuine Greek words, *e.g.*, "Apocalypse," "Aristocracy," "Democracy," "Chrysalis" should not have their etymologies treated in the same way as if they were modern "scientific" inventions like "Biology," "Demography," "Blastoderm," etc. "Apodictic," on the other hand, has rightly had ἀποδεικτικός given as its original; but the descent of that from ἀπόδειξις should have been mentioned (as there is no article on that word). After the word "Fall" the Greek σφάλλειν is inserted in brackets—as if the Saxon word came from the Greek! In the article "Anthropology" we find the remark that "the term was used by Aristotle, but somewhat inexactly". Bonitz only gives the word ἀνθρωπόλογος in *Eth. Nic.*, iv., where it is said that the magnanimous man (like Wordsworth) does not delight in "personal talk"! In the article "Autocracy" surely something has dropped out. The word in Russian characters is "Imperator," which is not Greek, though it may have come *through* Byzantine Greek. Under "Heaven" we find "etymology uncertain: possibly *Lat. camera*, a chamber, or *capere*, to hold"—a mysterious entry. Can it have originated in some German dictionary where *Himmel* has been derived, not certainly from *Lat. camera*, but from the same root as *camera?* But then it still remains to be shown that *Himmel* and *heaven* are the same word; this *The New English Dictionary* regards as not proved, and it seems very improbable.

The cross-references seem often oddly arranged. Thus under "Geulincx," after the briefest note, we are referred to "Cartesianism" and "Occasionalism". Under "Cartesianism" we are

simply referred to "Pre-established Harmony" and "Occasionalism". Under "Descartes," after a brief note, we find: "See Mind and Body, Occasionalism and Pre-established Harmony". The final result may be excellent, when we have it; but it seems strange to refer the inquirer after Descartes' philosophy to articles on theories which were not his. Under "Damnation (eternal)" we find: "See Judgment," and there we are referred to "Eschatology," where there is a brief article and a bibliographical note. Would it not be kinder to send the philosophical inquirer after "Damnation" straight to "Hell," which is fuller and more curious? It begins, "The place where lost sinners abide, suffering endless punishment, and keeping company with the devil and with devils". "The Greek Gehenna" is spoken of as if it was Greek in the same sense as "Hades" and "Tartarus". The article ends: "It is well to remember that, on all the matters discussed under this head, the most striking feature of Scripture is its silence. Consequently, philosophical discussion of the subject must be based more on the ideas of the destiny of mankind formulated at various periods and by various races than upon documentary evidence." One can only marvel what the writer understands by "philosophical discussion," when he thinks it worth while to write thus about "documentary evidence" in a Philosophical Dictionary.

There are articles on "Amulet," "Belgic Confession," "Confirmation" (the last clause in this article would naturally suggest that baptism in the Roman Church can only be administered by priests). There is an article on "Church and State"—too meagre both in itself and in its references to literature to be of use to the student. There is no article on "Civilisation." "History of Culture" (in article "Culture") is *not* the English for *Culturgeschichte*. Among the literature in article "Custom," Bagehot's *Physics and Politics* should have been included. It is referred to in "Group Selection". In "Eternity" there should have been a reference to Plato's *Timaeus*. In the article "Federation," *Bundesstaat* and *Staatenbund* are given as German equivalents, without any indication of the difference between them or of the attempt made by many English writers, following the historical usage of America, to employ "Confederation" for the looser form of composite state. In the article "Aristotle's Experiment" there should have been a reference to *Met.* Γ, 1011, *a* 33 as well as to *De Insomn.*

In the article "Beauty," πρός τε καλά is an easily corrected misprint, as is καθ' αὐτό in "Kant's Terminology". In "Dialectic" Mr. McTaggart's name is wrongly spelt. The English of some passages is not accurate or free from ambiguity. Thus in "Alcoholism" we read: "The study of alcoholism has an importance beyond its medical and psychological interest. It has contributed to much of the degradation of individuals and races, and the regulation of its use has been for generations one of the most

important sociological problems." In "Creationism" there is this sentence: "Creation by a single act or 'continuous' creation (by a series of acts), alike hold the theory of transcendence as opposed to that of complete immanence". In "Demonomania" there is this: "On the historic side, demon possession is important as a stage in the development of medical theory of disease, and as suggesting a rational explanation in terms of modern psychiatry of the actions and influences of abnormal individuals in former ages". In the article "Devil": "By the sixth century the personification is so complete that the devil is able to appear disguised as Christ, and to employ this ruse for the destruction of souls. Its persistence and domination is attested by the prosecutions for witchcraft, etc. . . . It is noticeable from the philosophical standpoint, that theology has always treated the devil from a psychological or ethical standpoint. The problem involved is really ontological, and as a consequence of philosophical criticism, coupled with the modern explanation of the myth by way of historical development, the idea is now without vital influence." Some revision of style is much needed here.

The article "Cause and Effect" begins as follows: "(1) Cause and effect are correlative terms denoting any two distinguishable things, phases or aspects of reality, which are so related to each other, that whenever the first ceases to exist, the second comes into existence immediately after, and whenever the second comes into existence, the first has ceased to exist immediately before". Is this definition applicable to "cause," either in its scientific or in its popular sense? It is admitted further on that in practice "the demands that a cause should immediately precede its effect, that it should cease to exist upon the occurrence of its effect, and that their relation should be absolutely invariable, are sacrificed". If the definition were adhered to, we should indeed be able to say that the guard's whistle caused the train to start, but we should not be able to say that the steam in the engine was the cause of the train moving—till the fire went out or the boiler burst. What has become of the good old maxim *Cessante causa, cessat effectus?* No allusion is made to it. In the same article it is said that the Pre-Socratic philosophers used the word ἀρχή—a statement which is extremely doubtful (see Burnet, *Early Greek Philosophy*, p. 52). It is also said that Hume "denied a necessary connexion, *i.e.*, the possibility of inference, between any two existent things". That Hume's denial of necessary connexion implicitly destroys the possibility of inference, may be a legitimate criticism. But neither Hume, nor Mill after him, thought that he had made inference (probable inference at least) impossible.

The elaborate essays by Prof. Royce on Greek, Hegelian, Kantian and Latin or Scholastic Terminology would deserve separate consideration. They seem the product of great learning and minute care. But may it not be questioned whether the convenience of the student is really served by this method

of treatment? Thus suppose a student comes across the word *formaliter* in a passage of Descartes or Spinoza, he looks up the word in the *Dictionary* and finds "See LATIN AND SCHOLASTIC TERMINOLOGY. Glossary sub verbis". In the Glossary (Why is an Index to a Glossary called a Glossary?) he is referred to §10, where the distinction between "formal" and "material" is explained. The Cartesian use, in distinction from *objective*, is explained in §13; but there is no reference to that section in the "Glossary" *s.v. formaliter:* and it takes some time to search through an article of more than ten pages in double columns. There is an article on the word *Eminenter*, but no reference is there made to *formaliter*. The Greek term οὐρανός, as used by the early philosophers, is not explained in the article on Greek Terminology It is not in "Heaven," where it should have been referred to. It is rightly referred to in "Cosmos". The word ἀρχή is not in the Glossary of "Greek Terminology". There is an article "Arche": "Aristotle's term for first principle or source, in the sense of formal and final CAUSE (*q.v.*), in his scheme of causes"—a curious article, for it seems to exclude the ἀρχή κινήσεως as well as the material cause. There is a brief article on *Aseitas* (a word not apparently mentioned in the article on Latin Terminology) and one on *Haecceitas* with a reference to "Latin Terminology," where it may be found by the help of the Glossary. The article on Hegel's Terminology appears only to include the terms of his Logic. There is nothing on such terms as *Recht*, *Moralität*, *Sittlichkeit*, *Bürgerliche Gesellschaft;* but of course these may not be regarded as so distinctively Hegelian.

These are some of the matters which have been noted by one person using the Dictionary during a short time only. The general impression left is that, along with a great number of excellent and business-like articles, there are many which need a good deal of revision. Criticism has been made with fear and trembling; for the Editor warns us that "there is hardly anything in the work which has not the support of a group of men of the highest authority. This should be remembered by the single writer or student who finds this or that point unsatisfactory. He is one; we are many" (p. xi.). I sincerely trust that some of the statements I have quoted have not the support of a group of men of the highest authority, but are simply due to some inadvertence. In any case, however, while counting heads instead of breaking them may be a defensible expedient in political matters, in philosophy and and scholarship the only resource is to break heads—dialectically—when it seems necessary, even if they are the heads of φίλοι ἄνδρες· ἀμφοῖν γὰρ ὄντοιν φίλοιν ὅσιον προτιμᾶν τὴν ἀλήθειαν.

D. G. RITCHIE.

The World and the Individual. Second Series. "Nature, Man, and the Moral Order." By JOSIAH ROYCE, Ph.D., LL.D., Professor of the History of Philosophy in Harvard University. (Aberdeen Gifford Lectures.) New York: Macmillan, 1901. Pp. xvii., 480.

THIS volume, the author tells us, is more practical in its aim than its predecessor. "The previous discussion dealt with the Theory of Being; the aim of what is to come shall be a doctrine about Life" (p. 4). The first Lecture, "The Recognition of Facts," after some admirable remarks on the relation of philosophy to life, recapitulates the view taken in the First Series, that "what we experience is, in one aspect, always our own will to be compelled by facts" (p. 30). It is no doubt the case, as Dr. Royce points out, that we can never be out of harmony with facts except in so far as our own nature leads us to postulate something inconsistent with them. But it appears from the fuller statement previously given (*cf.* First Series, pp. 389, 390) that Dr. Royce finds in this a ground for a belief in an ultimate and supreme harmony between our will and reality. And this does not seem a legitimate inference. If my will had no relation to the facts before me, I could not be dissatisfied. But it does not follow from this that my will will ever be in that special relation to the facts which produces satisfaction.

The second Lecture is entitled "The Linkage of Facts". Here we deal with the distinction between the World of Description and the World of Appreciation. The World of Description is that which we form when we view facts "as if the only purpose which they could fulfil was the purpose of being discriminable" (p. 98). This world also is "anybody's world". From whatever individual standpoint we may start, we shall come to the same result (p. 99). And it is therefore "abstract and inadequate" (p. 101).

"The true world," on the other hand, "the World of Values or of Appreciation, as rightly viewed by an absolute insight, would be a world of Selves, forming in the unity of their systems One Self" (p. 106). And its unity "determines not merely what is the same from many points of view, but what is uniquely present, once for all, from the divine point of view, as the one true Order of things" (p. 102).

The distinction here indicated is, no doubt, of great importance. But Dr. Royce's terminology tends to suggest an absolute gulf where, as it seems to me, there is in reality a continuous development. Between the abstract universality of mathematics and the full individuality recognised, if not completely expounded, by such a philosophy as Dr. Royce's, or Hegel's, there surely lie many stages which give gradually increasing recognition to individuality. And "the one true Order of things," while it is certainly more than "what is the same from many points of view," is not so

much a fresh conception as a higher form of the same conception.

The rest of the lecture is largely occupied by the development of the view that the "best single word for expressing what is essential to a lawful order in the world of facts is the term Series" (p. 72). In the World of Appreciation the series are such that "every fact has its next-following fact". In the World of Description, on the other hand, a fresh fact can always be inserted between any two facts—or when this is not empirically possible, we postulate the intermediaries we cannot observe (pp. 98, 107).

All order may no doubt be expressed as a Series. But is it worth while to do so? Everything which makes a conception of order adequate or inadequate as an expression of reality is left untouched by such an expression. If reality is conceived as a mechanical aggregate, or as an organism, or as the *Civitas Dei*, it could be said to form a series. But the important point is to know what relations are predicated, in each case, between the points forming the series, and it is just this which the conception of series ignores—as is natural with a conception taken originally from mathematics.

The third Lecture deals with the Temporal and the Eternal. Dr. Royce first expounds the conception of the Specious Present, as applied to the consciousness of finite individuals. The lives of finite beings, he tells us, must be considered as being in a temporal order, because every finite being is striving towards an Other, which involves time (p. 134). Nevertheless, the Other towards which such a being strives is the whole of which the striving being is a part, and this leads on to the assertion that "this same temporal whole is, when regarded in its wholeness, an Eternal order. And I mean by this assertion nothing whatever, but that the whole real content of this temporal order, whether it is viewed from any one temporal instant as past or as present or as future, is at once known, *i.e.*, is consciously experienced as a whole by the Absolute. And I use this expression *at once* in the very sense in which we before used it when we pointed out that to your own consciousness, the whole musical phrase may be and often is known at once, despite the fact that each member of the musical succession, when taken as the temporally present one, excludes from its own temporal instant the other members of the sequence, so that they are either no longer or not yet, at the instant when this element is temporally the present one" (p. 138).

An adequate discussion of this most interesting theory is impossible here. I wish only to make two comments. The first is that the Specious Present of the Absolute contains the future as well as the past, in opposition to the view held by Mr. Bradley, by which "the 'now' contains merely the process of present turning into past" (*Appearance and Reality*, p. 41).

The second point is that this view really asserts the absolute

validity of Time, and leaves no place for Eternity at all. If I understood Dr. Royce rightly, he holds that even for the Absolute the distinction of past, present, and future really exists. Even from the standard of the Absolute, therefore, some events are no longer, and others not yet. It is true that the Absolute is directly conscious of what is no longer and what is not yet. But that does not make them real at the moment at which the Absolute is conscious of them—for then they would respectively still be, and already be, which Dr. Royce has denied to be the case. What then is eternal? Nothing but events, apparently, since Dr. Royce speaks of nothing else. But not the events of which the Absolute is conscious, for the reasons I have just given. Not, finally, the event of the Absolute's consciousness. For that must change every moment, since every moment it regards as present something which it had previously regarded as future, and regards as past something which it had, in the previous moment, regarded as present.

Lecture IV. ("Physical and Social Reality") contains a very interesting study of the social element in our view of nature, which is summed up in the assertion that "the so-called axiom of the unvarying character of the laws of nature is no self-evident truth, is not even at once an empirically established and a universal generalisation, and possesses its present authority because of the emphasis that our social interests give to the discovery of uniform laws where we can discover them" (p. 195).

If among our "social interests" be included our interest in understanding the universe, it is no doubt true that, in so far as we do not attempt to understand the universe, we do not need the axiom of the uniformity of nature. But this would also be the case with every other truth, including the law of contradiction, and Dr. Royce certainly does not hold that all truth depends on our social interests in the way in which the uniformity of nature depends on them.

If "social interests" is taken in a narrower sense, I do not think the proposition can be maintained. No doubt the world would be inconvenient if there were no uniform laws to be found in it. But would that be all. Would it not also be contradictory? And then the uniformity of nature can scarcely be said to be a merely social interest. That uniformity is not the whole truth, and is therefore not quite true. But an approximation to the truth is not quite the same as a merely practical expedient.

Lecture V. deals with the Interpretation of Nature. Dr. Royce points out that the laws of reversible processes are valid only for Matter as such. "But the other laws, the laws of the irreversible processes, are, in their most general type, common to Matter and Mind, to the physical and the moral world" (p. 218). To these latter much greater importance is to be attached. "We know that Nature, as it were, *tolerates* our mathematical formulas. We do not know that she would not equally well tolerate many other such

formulas instead of these. But we do know, meanwhile, that the processes called by us growth and decay are facts as genuinely real as any natural facts whatever" (p. 225).

This is followed by the development of a theory which seems to me to be of great novelty and importance. Those systems which hold that all centres of reality must be conscious beings have generally considerable difficulty in explaining the finite centres of reality behind that inorganic nature which behaves so differently from our bodies. Dr. Royce suggests that "the actually fluent inner experience, which our hypothesis attributes to inorganic Nature would be a finite experience of an extremely august temporal span, so that a material region of the inorganic world would be to us the phenomenal sign of the presence of at least one fellow creature who took, perhaps, a billion years to complete a moment of his consciousness, so that where we saw, in the signs given us of his presence, only monotonous permanence of fact, he, in his inner life, found momentarily significant change (p. 228). "If . . . personal individuality is an essentially ethical category, then a new person exists whenever, within a conscious process of a given time-span, intercommunication with the rest of Nature results in the appearance of processes significant enough to express themselves in new ideals, and in a new unification of experience in terms of these ideals" (p. 229).

"Meanwhile, our hypothesis supposes that, in the case of the animals, we may well be dealing not with beings who are rational in our own time-span, nor yet with beings who are irrational. The rational being with whom you deal when you observe an animal's dimmer hints of rationality, may be phenomenally represented rather by the race as a whole than by any one individual. In that case, this individual animal is no rational person, but he may well be, so to speak, a temporally brief section of a person, whose time-span of consciousness is far longer than ours" (p. 232).

The next two lectures are devoted to the doctrine of the Self. Dr. Royce reminds us of the distinction drawn in the previous volume between Internal and External meaning, and declares that primarily "the contrast of Self and not-Self comes to us as the contrast between the Internal and the External meaning of this present moment's purpose" (p. 272). The significance of the Self is teleological. "By this meaning of my life-plan, by this possession of an ideal, by this Intent always to remain another than my fellows despite my divinely planned unity with them—by this, and not by the possession of any Soul-Substance, I am defined and created a Self" (p. 276). And again, "in our present form of human consciousness, the true Self of any individual man is not a datum, but an ideal" (p. 287).

This is followed by an attempt to show how a part of a Self may, in time, assume a separate Selfhood, which it did not previously possess. It would seem that the new Self may remain a part of the original larger Self, or (if I understand the theory

rightly) may become independent of that original Self. I must confess that I entirely fail in attaching any meaning to the inclusion of one Self in another, or to the transformation into a Self of something which previously was not one. Nor do I see how Dr. Royce can be so confident as he apparently is that the genesis of the Self in time is not inconsistent with its immortality when produced. Even if, as he says, all facts have teleological relations with the Absolute (p. 322) how are we, on such a theory, to be convinced that the end of each finite Self is not to efface itself and vanish as a means to something else?

Lecture VIII. deals with the Moral Order. The following sentences seem to give the fundamental aspects of the doctrine put forward. "To seek anything but the Absolute itself is, indeed, even for the most perverse Self, simply impossible. All life is looking for God, however base the forms of idolatry beneath which the false love of the world may ignorantly hide its own meaning, at any one temporal instant" (p. 347). "The Self may seek its self-expression explicitly in the form of rebellion. Nor is such a rebellious attitude by any means wholly evil. Conscious choice of a total evil is, indeed, impossible. For the Self, at its worst, seeks finality of self-expression, and seeks this self-expression through a life that is at once Other than its present Internal meaning, and perfected in its form and content. . . . As a fact I can only assert my finite Self by transforming myself; so that I actually obey, in some measure, even while I rebel. For the finite Self cannot seek its own, without passing over into new life. And there is self-sacrifice involved in even the most stubborn rebellion; and courage and endurance are exercised, unwillingly, even by the most cowardly of pleasure-seekers" (pp. 349, 350). "Now once considering the individual as acting in time, what you have a right to say to him is, that, if he intends evil results, . . . then, just in so far as he succeeds in carrying out his end, he produces what, at just that point of time, is indeed an actual evil" (p. 362). "Every evil deed must somewhere and at some time be atoned for, by some other than the agent, if not by the agent himself" (p. 368).

I take the position to be this—moral evil has an eternal significance, but in its eternal significance it is so transcended that it is no longer evil. But, *sub specie temporis*, it is evil, as opposed to good, and must be atoned for before it is left behind. By such a view we combine the assertion that the universe is fundamentally good with a recognition of the phenomenal reality of evil which is quite sufficient for practical purposes—the only purposes for which we need be anxious to assert its reality. The theory and its exposition both seem to me to be admirable. My only doubt is as to the adequacy of Dr. Royce's conception of Eternity for such a purpose. Would not something more mystical and less temporal than an all-embracing Specious Present be required before the evilness of evil could be transcended?

"The Struggle with Evil" forms the subject of the ninth Lecture. "Every ill of human fortune is, presumably, either directly due to the magnitude and ideality of our finite plans, or else is more or less directly the expression of the morally defective intent of some human or extra-human moral agent, or of the inadequacy of such an agent to his own ideals" (pp. 387, 388). I would suggest that these are not so much alternatives as joint factors, both of which must be present in all cases. The evil fortune of any being must imply both an ideal which the facts hinder him from carrying out, and the facts which hinder him from carrying out the ideal.

This is followed by an admirable criticism of the forensic view of morals, which asserts that a man is only corrupted by his own sin, and ought only to suffer for his own sin. "In a sense the sin of every evil-doer among us taints all of us" (p. 389). And, again, the denial that any real evil falls on any man, except on account of the sins he has freely committed, reduces all attempts to help others to an absurdity (*cf.* pp. 402, 404).

The Lecture closes with an assertion that "our sorrows are identically God's own sorrows" (p. 408), and that "unless God knows sorrow, he knows not the highest good, which consists in the overcoming of sorrow" (p. 410). This supports my doubt as to the sufficiency of the Eternity ascribed to God by Dr. Royce for the purpose of completely transcending evil. And yet we have been told that the Absolute "transcends" evil (p. 396). Again God's Eternity is an all-embracing Specious Present. Therefore the evil, like everything else, is eternally present to him. If it is present *as* evil, and not as transcended and transmuted into what is not evil, how can he be said to have overcome it, or how can reality be held to be, *sub specie æternitatis*, completely good?

The Union of God and Man forms the subject of the last lecture. The most important part of this lecture deals with Immortality. "The same considerations," we are told, "which imply the intimate union of every temporal instant's passing striving with the whole life of God, equally imply that an individual task which is ideal, which is unique, and which means the service of God in a series of deeds such as can never end without an essential failure of the task, can only be linked with God's life, and can only find its completion in this union with God, in an individual life which is the life of a conscious Self, and which is a deathless life" (p. 430).

This seems to me to be more than Dr. Royce is, on his own principles, entitled to assert. Every finite Self is included within the infinite Self, in a manner which apparently is analogous to the way in which different conscious moments are included within each finite Self. What guarantee have we that the different finite Selves are not transitory episodes in the infinite Self in the sense in which a particular mood, or a particular effort are transitory episodes in my finite Self? Each finite Self is, no doubt, unique. But the "passing striving" of each temporal instant is also unique,

and yet it passes. It is true, also,—at least on Dr. Royce's principles—that every moral task, when completed, gives birth to a fresh task. But I do not see that Dr. Royce has proved that the new task is a task for the same Self as the one who performed the previous task. And without this, the endless succession of tasks would be compatible with the transitoriness of all finite Selves.

This volume will satisfy even the high expectations which were raised by the First Series. If Idealists in general can combine the old courage with new caution so admirably as Dr. Royce does, they will have learnt a lesson which will be of great value to themselves and the world.

J. ELLIS MCTAGGART.

Principles of Western Civilisation: By BENJAMIN KIDD. London: Macmillan & Co., Limited. New York: The Macmillan Company, 1902. Price 15s. net.

MR. KIDD has endeavoured to write a very remarkable book, and he had succeeded in producing one which will attract attention. His aim has been nothing short of a new philosophy of history; and though there may be nothing in his work which will give it a claim to a place among philosophical classics, it is sufficiently stimulating in quality and bold in conception to arouse discussion and reflexion even outside philosophic circles. It handles in a broad and synoptic manner many of the profoundest, and some of the most insoluble, problems; it contains many just reflexions, many effective passages of rhetoric, and some which reveal insight: above all it is penetrated with a manifest seriousness and sincerity of purpose. It is essentially a book for edification. In the judgment of the more critical among its readers its chief defect will be found to lie in want of clearness—clearness both in thought and in style. It has been Mr. Kidd's misfortune to have served no apprenticeship in any school of exact and rigorous thinking; he has never submitted his postulates and working conceptions to an insistent elenchus. Too often he seems to be feeling after a thought, and satisfying himself with a formula; too often his language is of that impressionist type which indicates a mood of aspiration rather than a process of reasoning. If Mr. Kidd could be persuaded to devote more attention to perspicuity of diction much that is obscure in his thought would tend to disappear. Loose writing and loose thinking are inseparable allies.

The argument of the book opens with a severe exposure and a confident correction of the errors of Darwin, from whom Mr. Kidd attempts to extort a confession of the doctrine that in "the operation of the principle of Natural Selection the centre of significance is always in the present time" (p. 40), *i.e.* that the law should be regarded "simply in its relation to the interests of the individuals

taking part in the struggle for existence as it went on at any particular time" (p. 41). (Whether the Darwinian point of view is really obnoxious to this criticism we have not now to consider.) Next from a study of Prof. Weismann's essays Mr. Kidd has learnt that nature's tendency is, other things being equal, rather to shorten the duration of life. But how can a Natural Selection which is hostile to "so ultimate and fundamental a matter as the average duration of life in the individual" be conceived as working for and through "the benefit of the individual . . . in a mere struggle for existence in the present"? (pp. 48, 49). Has not Mr. Herbert Spencer demanded, as the goal of social evolution, that the lives of all should be "the greatest possible alike in length and breadth"? Mr. Kidd has only omitted to note one consideration —but from his own point of view one which is essential. The "Self-realisation" of the individual is not to be measured in time but in value. Fulness and completeness of life stand in no necessary ratio to the increase of longevity.

Mr. Kidd's own view, then, is of "entire species and types, unconsciously pitted against each other for long ages in a struggle in which efficiency *in the future* is the determining quality" (p. 51). Now, granting that Mr. Kidd has here succeeded in removing himself from the Darwinian standpoint—a standpoint necessarily occupied by the scientific observer—can he explain how Natural Selection can select except by taking advantage "of such variations as arise and are beneficial to each creature under its complex relations of life" (*Origin of Species*)? Natural selection can only determine the future by eliminating the unfit and suffering the fittest to survive. Yes! replies Mr. Kidd, but fit and unfit for what, if not for fulfilling the hidden purposes of the future? It is the future which, in fact, controls Natural Selection, not Natural Selection which determines the future. To which an opponent still unconvinced can only retort: While I remain loyal to facts I can prove that Natural Selection determines the future of the species, but neither I, nor any one else, can do more than guess that any purpose to be revealed in the future controls the operation of Natural Selection. *This* individual copes with its environment, survives, and propagates; *that* fails and perishes, a barren life. It is only popular instinct which confuses result with purpose. The only argument which Mr. Kidd has to offer for his principle of "projected efficiency" is one so singular that we quote it in his own words, lest we fail to do it justice. "It is evident that the very essence of the principle (of Natural Selection) is that it must act in the manner in which it produces the most effective results. It must act through the medium of the largest numbers. The qualities in favour of which it must, in the long run, consistently discriminate are those which most effectively subserve the interests of the largest majority. Yet this majority in the processes of life can never be in the present. It is always, of necessity, the majority which constitutes the long roll of the yet unborn generations"

(pp. 42, 43). Truly, a remarkable application of the doctrine of the right of the majority! There is, indeed, one real argument in defence of Mr. Kidd's position, and that is a theological one. Let him plainly write "God" for "the control of the future" or "projected efficiency," and the doctrine will assume a more intelligible if a less paradoxical shape.

The bulk of the book is occupied with a review of the phases of Western Civilisation in the light of this new formula. Himself profoundly convinced of the momentous significance of the truth of evolution, and the reconsideration of all political and social questions which it entails, he divides history into two grand epochs —the first, the epoch of the "ascendency of the present," characterised by "the supremacy of the causes which are contributing to social efficiency by subordinating the individual merely to the existing political organisation" (p. 140), the second the epoch of "the control of the future," *i.e.* of the supremacy of those causes, "which contribute to a higher type of social efficiency by subordinating society itself with all its interests in the present to its own future" (p. 142). This leads him to seize and apply the antithesis between "the 'State' considered as an organisation of existing individuals, and 'Society' in process of evolution, considered as an aggregate of individuals in whose welfare these existing individuals have simply not the slightest interest" (p. 69) with a relentless and rather undiscriminating hand. It leads him to restate the fundamental formula of progress as one of gradual emancipation from the ascendency of the present to a frank and conscious surrender to the control of the future. It would appear that Western Humanity is by way of completing its transfer of allegiance. Already in politics, thought and religion a principle of tolerance, which "can only be held in the last resort as a conviction of the consciousness," marks, among the advanced peoples, the control of the future, and reveals to Mr. Kidd "the great drama in which the tyranny of the present is being lifted, for the first time in the world's history, from the shoulders of the human race" (p. 386). But in the economic process in our time "the ascendency of the present" is "a world-embracing fact," and the writer closes his work by an appeal to the State (p. 469) or the general will (p. 462), consciously acting under a sense of responsibility to transcendent principles, to organise and direct the progress of industry towards an era of equal economic opportunity. Thus, and thus only, may be established that universal empire towards which our civilisation moves, "that empire in which it has become the destiny of our Western Demos, in full consciousness of the nature of the majestic process of cosmic ethics that has engendered him, to project the controlling meaning of the world-process beyond the present" (p. 473).

There is no call to criticise in detail the value and accuracy of Mr. Kidd's presentation of Western history. It is sufficient to say that when history passes into the service of the philosopher

of history it generally suffers grievous wrong, and that Mr. Kidd's treatment is no exception to the rule. But it is more distressing to find the writer, obsessed with his formula, so persistently failing to grasp the historical motive and significance of the thinkers he cites in the course of his argument. It would seem, indeed, that he can have studied very few of them in their actual relation to the needs and theories of their own times. This is a serious charge; did space permit we should be ready to substantiate it. Still, a philosophy of history may exhibit luminous intuitions and contain elements of real value apart from the authorities it cites and the historical experience which it professes to interpret. The question is not so much of the merits or defects of Mr. Kidd's application of his formula as of the value of the formula itself. And to adjudicate on its value it is necessary to fix its meaning. We gather that the "present" which has been ascendant through the far greater tract of past history always implies opposition to some sort of development, and we are bound to infer that man is endowed with a perverse gift of resisting the progress for which he is destined. We are directed to discover the ascendency of the present in all those societies in which social efficiency is intimately dependent on military efficiency (pp. 140, 141). It is "this principle of the ascendency of the present which carries the inquirer into the inner meaning of every detail of the life of the ancient civilisations" (p. 189)—"civilisations in which the purposes of the State included the whole life and interests of the individual—material, moral, and religious" (p. 20). The ascendency of the present animates the radical notion of political finality (p. 17). In Mill's conception of progress it is the ideal of the ascendant present in a stationary state which is set before us as the *Summum bonum* in political development" (p. 120). It is the ascendency of the present which rules in the speculations of Voltaire, Condillac, Helvetius, Diderot, D'Alembert, Rousseau, Hegel, Bentham, Austin, James Mill, Stewart, Malthus, Grote, Ricardo, Huxley, Spencer and Darwin (the list is not exhaustive). The principles of the Manchester School are "the characteristic vehicle through which the present has endeavoured to express its ascendency in the modern political drama of our civilisation" (p. 23). Nay, even the recognition of the economic factor in history seems to connote the sway of selfish interests, for Mr. Kidd, if we understand him aright, refuses to distinguish between an economic interpretation of history and the ascendency of materialistic motives. Where the manifestations are so many and heterogeneous the underlying principle of the ascendency of the present, whatever it may be, eludes definition and consequently lies quite outside the province of criticism. On the other hand "the control of the future" offers to criticism no surer foothold. It is, of necessity, the antithesis to the ascendency of the present, and it signalises its sway by engendering "a sense of direct, personal, and compelling responsibility to a principle cosmic in its reach—to a principle which must of necessity transcend every

power and purpose included within the limits of political consciousness" (p. 252). But what is this controlling future? Is it a person, or a process, or a force? Mr. Kidd assumes throughout—a tremendous assumption for which he offers neither apology nor proof—that evolution must be justified of her children. Indeed, apology and proof would be alike presumptuous, for the future, and the future alone, knows what she would be at. Evolution acts never for the sake of the present, always for the sake of the future. If Mr. Kidd is really serious in his proposition, then evolution acts for no end at all. If, on the other hand, as he would probably admit, evolution does make for some goal, why should those be condemned as wanting in faith or wits who seek, however imperfectly, to understand it, or impious who take a hand in the game? For to Mr. Kidd an intelligible ideal is an ideal condemned; it signifies the ascendency of the present. He calls upon the awakened consciousness to identify itself consciously with a meaning of which, *ex hypothesi*, it can never be conscious, upon the will to render devoted obedience to a movement to which it is bound by neither interest nor understanding. The principle by whose aid Mr. Kidd has endeavoured to thread his way through the maze of Western history is fruitful neither for interpretation, nor for guidance, nor for prophecy. It was in an unfortunate hour that he selected a time formula wherein to vest a doctrine of transcendental obligation.

W. G. POGSON SMITH.

Contributions to a Psychological Theory of Music. By MAX MEYER, Professor of Experimental Psychology, University of Missouri.

PROF. MEYER introduces his theory by insisting very strongly that "the most important group of musical facts is the one referred to by the scientific term 'melody,'" and if for this only his paper deserves attention. For as he points out "Melody, the essential part of music, does not seem to exist for the theorist," the theory of music to the musician and even to the psychologist has hitherto meant almost exclusively the theory of Harmony. And though a theory of melody might not add to the pleasure of hearing music, and could hardly be expected to aid in composing it, such a theory would be of the greatest interest, to the psychologist if not to the musician. After this excellent opening, however, Prof. Meyer in his introduction indulges in some rather discursive criticisms on existing theories; of which it is not quite easy to catch the drift until one has read his later chapters. And even then it seems to me that Prof. Meyer himself does not quite realise what the crucial point of his theory is. The introduction of the number 7 as expressing a melodic relation is in reality merely con-

sequential on his theory of the tonic—a theory which in many respects bears a close relation to the Tonic Sol-fa method, and which might, I think with advantage, be brought into yet more close relation with it.

Prof. Meyer commences his exposition, in chapter i. by explaining what he means by saying that there is a relationship between two tones, or that two tones form a melody, when heard successively. He appeals to experience to prove that such a relationship does not exist between tones, the ratio of whose vibrations involves primes higher than 7; but he asserts that in the case of 7, say the ratio 5 : 7 a relationship can be observed. It does not, unfortunately, appear from Prof. Meyer's paper that he has tried his experiments on any large number of unbiassed observers, and the fact in question is hardly sufficiently established as yet to form by itself the basis of a new theory; for even if accepted it would not necessarily involve more than slight modifications of existing theories. But there is another premiss which Prof. Meyer lays down, whose significance is not at first sight so obvious, but which upon examination proves to be the crux of the whole theory. He says, "when one of two related tones is a pure power of 2, we wish to have this tone at the end of our succession of related tones, our melody"; and he proceeds to speak of this tone as the 'tonic'. Now this statement contains really two propositions, namely (*a*) that, 'save in a few instances where a peculiar psychological effect is aimed at,' there is a certain tone in every melody upon which alone it is satisfactory for the melody to end; and (*b*) that this note may be represented by a pure power of 2. Probably every one who has a 'musical ear' will understand proposition (*a*) and admit its general truth. The conception of a tonic is common to all modern musical theories, and this property of a tonic may perhaps be accepted as defining it. To understand proposition (*b*) we must remember, in the first place, that the numbers representing notes are not the absolute numbers of vibrations, but only proportional to them; and in the second place that Prof. Meyer takes no account of 2 as a factor; so that when he represents a tone by 2 (or, which he might do equally well, by 1) he means that the number of vibrations in it is a common measure of the numbers in all the other notes of the melody (multiplied only by a power of 2).

Prof. Meyer then goes on to classify the degrees of relationship between various pairs of tones. In doing so, since he takes no account of the factor 2, he of course classes fourths and fifths, thirds and sixths, and so on, together. He arranges them roughly in three groups. The first degree of relationship includes octaves, fourths, fifths and normal major and minor thirds (2-2, 2-3, 2-5, 3-5), the second degree an abnormal minor third (3-7) and seconds (2-7 and 2-9). In the third degree he places a semi-tone (2-15), another form of second (5-9) and the interval (5-7), which would be a diminished fifth on the piano as nearly as possible.

In chapter ii. Prof. Meyer discusses the complete musical scale, which is "a series of all tones which may occur in one melody, however complex this may be". It is, in fact, a table of all the products of the primes 2, 3, 5 and 7, and of their powers, arranged in columns by powers of 2, and divided by horizontal lines into twelve groups, corresponding roughly to the twelve notes of the ordinary scale. The table, however, not only stops at the tenth power of 2, but he has not included in it powers of 5 above the third, or of 7 above the first. Prof. Meyer gives as his reason for these omissions that he has "found no case where the higher powers of 5 and 7 are used," though he says the reader may add them if he pleases. I shall return to this point later on.

In order to put his theories to the test Prof. Meyer had an organ constructed whose reeds were exactly tuned to give all the notes on his complete scale between 64 and 1024 (absolute vibrations per second), and on this organ he played his melodies, choosing from among the possible alternatives that intonation which it seemed probable the composer had in his mind, and which gave the best æsthetic effect. 'Usually,' he tells us, 'one finds only *one* intonation of the whole melody which he feels inclined to attribute to the genius of a great composer.' In other words, one is able as a rule to determine with tolerable certainty what exact musical relationships constituted the composer's ideal. But in some cases there are two or more possible intonations which appear equally, or almost equally, effective. In such cases it is permissible to suppose that some people might prefer one and some the other interpretation; and it is, therefore, to be regretted that Prof. Meyer has not recorded for us the opinions of a larger number of observers, especially as these doubtful cases are just those which are of greatest theoretical interest.

I am unable to say much in the way of criticism of the illustrations which are given in the next three chapters, as I have not Prof. Meyer's instrument on which to test them myself. But there is one point of interest which I may note. Many of the illustrations are what he calls melodies 'without a tonic'. Musicians would probably agree readily enough that these melodies do not end on the tonic; but there is another peculiarity in Prof. Meyer's analysis of these melodies which seems to me (though I may be wrong) in some cases at all events to be the effect rather than the cause of his view that "no melody *that contains* 2 can end with any tone but 2". I cannot help surmising that this may explain why, notably in examples 9 and 10, he represents the note I should have called 2 (or 64) by 63. In the example from Lohengrin especially I feel convinced that the note he calls 63 is the tonic.

In the later chapters we are given some remarks on harmony, among which I may particularly notice an explanation of the fact that a certain highly trained choir always sang flat towards the end of a certain chorus—by Heinrich Schütz. This explana-

tion is too long to be reproduced here in full, but it seems to me altogether admirable, and has done more than anything else in the paper to convince me of the value of the theory, for it shows in a convincing manner the importance of melodic, as opposed to harmonic, relationships to a psychological theory of music. Briefly the explanation is this—that each singer accepts the next note he has to sing as related melodically to what he himself has just sung, rather than harmonically to what the others are singing, though the harmonic relationships cause subsequent modifications, which may be made by the wrong part. So that, for example, a singer who had been singing a note represented by 80 in one chord, continued the same note in the next, when he should have sung 81, and the other singers then sang flat to keep in tune with him.

This outline will I hope be sufficient to render a few words of general criticism intelligible. In the first place, I cannot help thinking Prof. Meyer has fallen into some confusion in making the question whether a melody can or 'can not end with any tone but' the tonic, depend upon whether the tonic happens to occur in the melody or not. Although in all Prof. Meyer's illustrations of melodies which do not end on the tonic, the note represented by 2 is absent, in some at least of them this result has been attained by representing a note by 63 instead of 64 (or 2) and it may be that every one would not agree that 63 gave the better æsthetic effect. Prof. Meyer tells us in one case (example 9) that musicians have actually harmonised the melody "as if 63 were a tonic, identified with 64"; though it is of course possible that they would not have done so if they had had the advantage of a perfectly tuned instrument like Prof. Meyer's on which to test the effect. But in any case, to apprehend a succession of tones as a melody is, psychologically, to apprehend relationships which imply the relation of each note to a tonic, just as on the physical side to represent the notes by numbers having simple numerical ratios is to imply a number which is the greatest common measure of all. Personally I may have been influenced by a few lessons I had in the Tonic Sol-fa method when I was a child. If I apprehend even two notes, such as a cuckoo's call, as a melody, I instinctively give names to them, such as 'soh-me' or 'doh-lah' (the two are not by any means the same to me). But any one with a musical ear, and any sort of musical training, would have no difficulty in imagining, or singing, the tonic to which he mentally referred the notes, whether it had actually been one of them or not. And surely, in longer melodies at any rate, the question whether they do or do not end satisfactorily on another note than the tonic cannot depend on whether the hearer actually remembers having heard the tonic some bars back, or whether he only imagines it.

In the second place a somewhat similar criticism may be made on the way Prof. Meyer insists that there shall be only one note represented by 2—only one tonic, for a whole melody; when it

would have been perfectly consistent with the greater part of his theory to adopt a plan of representing modulations as is done in the Tonic Sol fa method. But though Prof. Meyer admits 'partial tonics,' he professes to reject 'modulations,' for reasons which are not at first apparent. One result of this, which Prof. Meyer seems to have overlooked, is that not only does it necessitate the use in a complex piece of music of very large numbers to represent the notes, but that we shall almost at once have to run beyond the numbers given in Prof. Meyer's complete scale. If, for example, a melody, in ordinary lanugage, modulates to the sub-dominant key, Prof. Meyer would say '21 becomes a partial tonic'. The sub-dominant of the new key would then be represented by 441, which contains the square of seven, and is not given in Prof. Meyer's scale.

These criticisms are not mere matters of detail or of notation. They have an important bearing on the most obvious point in which Prof. Meyer's theory differs from those ordinarily accepted, namely, his use of the number 7; the fact being that without this number his theory of the tonic as the Greatest Common Measure Note would break down, for without it there would be a gap in the present scale, between the fifth and seventh notes, unaccounted for. According to the ordinarily accepted view, as given by Helmholtz, for example, this gap is filled by a note a perfect fifth down from the tonic above; which note, however, could not be represented by a whole number if the tonic is to be represented by a pure power of 2. It follows, therefore, that the theory of the tonic as greatest common measure note involves that the note a fifth down from the tonic does not belong to the key—to make use of it necessarily implies a modulation. Prof. Meyer would go further and say that if you use it it *ipso facto* becomes *the* tonic, for he only admits of one tonic in a piece of music, even if it is as long as a whole opera!

There are some respects in which Prof. Meyer's paper is disappointing. In particular he throws no light on what to the psychologist is one of the most interesting problems presented by music, namely, the peculiar æsthetic effect of minor melodies. But it would go some way in this direction if his theory of the tonic could be established, as it would show a clear distinction between the major and any minor scale. And his paper has this great merit—it is not a mere dialectic, it brings the question to the test of experiment.

EDWARD T. DIXON.

VI.—NEW BOOKS.

The Study of Religion. By Morris Jastrow, junr., Ph.D., Professor in the University of Pennsylvania. London: W. Scott ("Contemporary Science Series"). Pp. xiv., 451. Price 6s.

The "Contemporary Science Series" in which this volume appears has included some monographs of high class such as Weismann's *Germ-Plasm*, Ribot's *Psychology of the Emotions*, Lloyd Morgan's *Comparative Psychology*, and Starbuck's *Psychology of Religion*. This volume on the *Study of Religion* is something of a monograph itself; but on the whole I should regard it as of the handbook type: it professes to place in the student's hands an apparatus that will enable him to set to work upon the study of Religion in a scientific spirit and by scientific method. Prof. Morris Jastrow comes to his task well equipped in two ways; he is well acquainted with the literature of the subject over almost the whole field, and he has also the advantage of having made a special study in one particular area, the religion of Babylonia and Assyria. Besides this double training in method he has also passed through a discipline of the spirit, of the kind which is of more fundamental importance than even range of knowledge and mastery of method when so complex, so delicate, and so profound a subject as religion is in hand. The effect of these qualifications lies before us in a handbook which, in my opinion, merits unreserved commendation alike for the general conception, for the filling in, and for the temper of treatment throughout. As is proper in a handbook, the space is chiefly occupied in bringing together the various opinions expressed in the literature of the subject. We find a survey of these in the pre-scientific period, lucidly indicating the ways in which religion has been regarded by leading minds from the time of Plato to the period of Herder and Carlyle; then comes the formulation of the science in the later nineteenth century, and a fuller exposition of the views of the recent masters, Max Müller, Renan, Réville, Tiele—to name the leaders only. And all this is given in a setting of personal judgment; Dr. Jastrow is not merely the maker of a compendium: he has his own views, and the presentment is salted with them, throughout, and comes with the freshness of work shaped and coloured in the mind of the writer. He is himself, as he acknowledges, chiefly under the influence of Tiele—whose recent death students of this science respectfully lament—and there are many points in which I should be ready to join issue with Dr. Jastrow both as to what he receives from Tiele, and as to the turn he has given himself to these views. At the same time I would acknowledge that there is always a solid basis under Dr. Jastrow's positions, and he invariably expresses himself with considerateness for counter-positions.

The plan of the book gives, first, a general idea of what is understood by the Science of Religion. This is done at some length on account of

the recency of the recognition of Religion as the proper subject-matter of a Science; and a history of its gradual appearance on the scene is sketched. On classification various views are stated and criticised, after which Dr. Jastrow's own is given, his principle being the association of religion with life. I confess that it appears to me that this is to look for assistance in a region even more indefinite than the region which asks for assistance, and I feel that Dr. Jastrow has not relieved us from the necessity of choosing some classification for working purposes simply, with an acknowledgment that it is only an index-classification and that a scientific principle is yet to seek. As to *essence* and *origin*—which are discriminated sufficiently to require treatment in separate chapters—Dr. Jastrow, like Tiele, gives the impression of some confusedness between psychology and history, and I should not like to be called upon to say what they mean by essence as distinct from historical origination.

In part ii. are sketched the relations of Religion with Ethics, Philosophy, Mythology, Psychology, History, and Culture, in that order: the treatment naturally suggests criticisms at various points, but the student will find other positions than the writer's own indicated abundantly. Part iii. gives some 'practical aspects' of the study, including some account of its position in academic education, and an advocacy of the formation of Museums such as the Musée Guimet at Paris.

The Bibliography is a substantial feature of the book. Thirteen divisions are arranged, and a list of titles covering fifteen pages is given of works in French, German, Dutch and English. There are occasionally brief remarks critical or descriptive, *e.g.* on Ingram's *Outlines*, "one-sided from the Positivist's point of view," but these are so few as to suggest that Dr. Jastrow would do well to enlarge this bibliography by the supply of a note to each work. This would involve much labour possibly, but his reading has been so extensive that it would mean as little to him as to anybody, and its utility would be beyond question. There is a capital Index.

In putting so much historical work together with the fruit of independent research and reflexion into this unpretentious volume, Prof. Jastrow has rendered an important service to the universities and colleges which are introducing the study of Religion into their curriculum—the University of London and its colleges, for example. The general reader, too, will find that Dr. Jastrow writes a good English style, and the reading of this book should by no means be confined to academic circles.

A. Caldecott.

Comparative Physiology of the Brain and Comparative Psychology. By Jacques Loeb, M.D., Professor of Physiology in the University of Chicago. London: John Murray. 1901.

Dr. Loeb has produced a work which can hardly fail to be of interest to physiologists and psychologists, if only for the energy with which certain rather hypothetical positions are defended, and certain other "metaphysical" conceptions, usually regarded as self-evident, are attacked. He will have nothing to do with soul-life in plants, or living cells, or spinal cords, or indeed anywhere else. *Consciousness* is a metaphysical (*i.e.* illusory) name for "phenomena which are determined by associative memory," and associative memory is, as it turns out, nothing really mental in the ordinary sense, but a physiological phenomenon,—an interplay between stimuli and the effects of past stimuli which were active simultaneously with or in close succession to the first in the

earlier experience of the animal. In its psychology, the book leaves very much to be desired, but as an analysis of *behaviour*, and for its suggestive theories as to the physiological basis of different types of behaviour, it contains much that is of value.

Substantially, the associative memory (*i.e.* what others would term 'intelligence') proves to be a function of the cerebral hemispheres, or some corresponding organ: its outward test is obedience to training, taming, learning by experience,—of which Dr. Loeb recognises only a single type,—and it is not found, in the organic world, below crustaceans and cephalopods. The restriction of this function to the central nervous system,—the hemispheres in vertebrates,—is proved by Schrader and Goltz' experiments on animals with the hemispheres excised; all inherited reactions, instinctive behaviours, remain unimpaired or even intensified, after the animal has recovered from the shock-effects: but its acquired reactions, its recognition of individual objects, and the like, are lost. The *reason* for this difference between the cerebral hemispheres and the rest of the nervous system is, however, by no means to be sought in any connexion of the former with a 'soul' or 'mind,' but only in its chemical constitution; and the chief problem for the comparative physiology of the future appears to be this—to determine those "peculiarities of the colloidal substances" on which the phenomena of associative memory depend. Dr. Loeb looks very far ahead!

The theory of the nervous system generally which is here supported is the *segmental;* the ganglia throughout are not centres, whether of co-ordination (as in the older theory of reflexes and instincts), or of association or spontaneous action (as in Flechsig's theory of the cortical centres), but merely conductors, by which the effects of a stimulus upon a peripheral organ are carried more quickly and more intensely to the corresponding muscles, than they would be carried through the protoplasm substance in its simpler form. In reflexes, the excision of the ganglion-cell usually renders reaction impossible, but the cause is that the ganglion-cell is the only bridge between the nerve-endings and muscles. Instincts are merely chain-reflexes, and require no further psychological explanation,—they are in fact accounted for by various tropisms, heliotropism, stereotropism, chemotropism, which, to a reader who has not Dr. Loeb's confidence in mechanical explanation, are terms very suggestive of "metaphysics".

The segmental theory is applied in an interesting way to the cerebrum; the use of the nerve-path and ganglia, in lower animals, and in the spinal cord of vertebrates, is to lower the threshold of stimulus, and to heighten the rapidity of conduction, so that animals supplied with nervous systems more readily adapt themselves to changes of stimuli than others: the same 'dynamic' conception holds of the cerebral cortex, in man for example: there are not separate cells in which memory-images are stored, which are lost or injured when certain types of memory lapse in mental disease: but everywhere in the hemispheres the same sort of processes may occur,—wherever the necessary chemical constituents are given:—only in certain pathological cases, the same process may require a much stronger stimulus than before, in the normal man: and those "innervations" are more likely and more easy to occur which are connected with, have taken part in, the greatest number of associations in the past. Many aphasic phenomena seem to be explained by these two 'dynamic' principles without requiring us to assume any definite centre of innervation which may be either destroyed or weakened. The cortex as a whole, like the lower ganglia, is only a conductor, of a special kind, for the transmission of nerve excitations.

J. L. M'Intyre.

Momenta of Life : Essays Ethical, Historical and Religious. By James Lindsay, D.D., etc. London : Eliot Stock, 1901. Pp. 146.

The very long list of titles and distinctions which follows Dr. Lindsay's name upon his title-page raises an expectation of learning and profound thought which the contents of this little volume do not justify. The principles at the base of the author's doctrine are those of Christian theism ; excellent principles, but not much illustrated or advanced by what he has to say. We think, then, it is a pity that these papers have been published as philosophic essays. They would have been much better as sermons.

The paper entitled " Man and the Cosmos," perhaps the best in the book, a reply to naturalism on the one hand, and to Mr. Bradley's absolutism on the other, has all the eloquence and moral enthusiasm which make a good sermon. Only it is not an original contribution to thought.

La Philosophie russe Contemporaine. Ossip Lourié. Paris : F. Alcan, 1902. Pp. 278.

The author claims that his is the first book on Russian Philosophy. If we remember that Russian Philosophy filled only two pages in the four volumes of Ueberweg's *History of Philosophy* (8th ed. Berlin, 1897), and that Russian universities had no chairs of philosophy before 1863, a whole volume on this subject may be considered as a rare achievement. M. Lourié made his task easy by including in his book æsthetics, psychology and even sociology ; he dedicates a whole chapter to such a fanatic as Pobiedonstsew and extends in a similar way his account of *Russian* philosophy to at least one *Polish* writer who will be astonished to serve as illustration of the growth of *Russian* thought. A lithographed circular added to the book informs us of the author's " solide érudition, rare originalité d'esprit, style clair et vif ". As a sample of style may be quoted the author's attempt on pages 33-34 to define Soloview successively as " *contemplatif, théiste, panthéiste, moniste, dualiste, optimiste, pessimiste, mystique, rationaliste, idéaliste, spiritualiste* " ! Soloview is said to be the most original philosopher in Russia (p. 9), but when the author comes to the question wherein Soloview's originality consisted, he sees it only in the " *manière d'exposer, de coordonner les idées* ". He calls him a poet and a scholar (p. 28) and credits him with two chief aims of life which are alike outside of philosophy, poetry and scholarship, namely : (1) The union of the Churches ; (2) the abolition of capital punishment. The reader remains in uncertainty who really Soloview was, and why his name belongs to the history of Russian philosophy. The few other philosophers dealt with specially by the author fare no better. We learn of Nicolas Grote, the late Professor of Philosophy at the University of Moscow, that he " erred ten years (1885-1895) in the metaphysic world " and and that he defined the soul as " le substratum de l'énergie psychique ". Troitskij's best work is said to be his Logic, strangely appreciated in these words : " on y trouve des idées un peu embrumeuses, trop subtiles et par cela même originales " (p. 58). The fourth and last " philosopher " introduced to the reader, Preobrajenski, " found in the love of music the aim of his short life " (p. 65).

The impression produced by the author's account on an impartial reader is that there is no philosophy in Russia, despite more than a hundred writers quoted as having published books or articles in Russian on psychological, critical or sociological subjects. But the author seems

not to have exhausted his subject; otherwise he would not have omitted Aleksiej Aleksandrowicz Kozlow (1831-1901), whom he quotes only incidentally (p. 5) as having founded the first Russian philosophical journal in 1886. Kozlow deserved certainly a special chapter in an account of Russian philosophy, much more than Kropotkine, Herzen or Pobiedonstsew. Since the appearance in 1876 of his *Philosophic Studies*, and in 1877 of *Philosophy as a Science*, he published, besides a great number of articles in the Russian journal *Woprosy Filosofii* (vols. i., xv., xvi., xix., xxi., xxii., xxiv., xxix., xxx.), several volumes of critical investigations on Plato, Kant, Dühring, Hartmann, Tolstoi, and finally in *Swoje Slowo* (one's own word, five parts 1888-1898), an exposition of his philosophical convictions which he calls panpsychism. Kozlow had been Professor of Philosophy at the University of Kiew, and he was first influenced by Schopenhauer, later by Teichmüller. His panpyschism is an individualistic view of the universe, as consisting of a plurality of substances, all similar to human souls, not created, but ruled by one Highest Being, and ruling inferior monads forming bodies of a different degree of organisation in successive incarnations. Born in Moscow Kozlow died in St. Petersburg, and spent his life in different parts of the Russian Empire, with the exception of a short sojourn in Paris in 1876. He wrote all his works in Russian, and the German influence on his thoughts did not deprive him of a certain originality. Entirely free alike from a religious bias like Soloview, and from positivistic prejudice like Grote or Troitsky, Kozlow was perhaps the only pure metaphysician among Russians.[1] He was not very enthusiastic about the Russian nation, which he knew well and considered to labour under an ineradicable servilism; he thought that the Russian *moujik* always either puts himself into the hands of some Razuvajew (the type of a village usurer), becoming his slave, or, if he can, keeps others in a similar servitude. Such views made Kozlow not very popular in Russia, but nobody who reads his works can deny his genuine philosophical faculty of thought and of clear exposition. The omission of his theories in the "first book on Russian philosophy" is unaccountable.

Der Hermeneutische Syllogismus in der Talmudischen Litteratur. Ein Beitrag zur Geschichte der Logik im Morgenlande. By Prof. Adolf Schwarz. Karlsruhe, 1901.

This treatise consists of an elaborate analysis of one of the arguments used by the Rabbis in applying the rules contained in the Pentateuch to cases neglected by the legislator. The author writes as an orthodox Israelite for the benefit of his co-religionists, and is without doubt well qualified to expound the Talmud. His book will be of great help to those who desire to understand the subtleties of that work, but they will have to possess considerable preliminary knowledge of the subject if they are to follow him. His purpose moreover is not so much to assist beginners as to uproot an error nearly 2,000 years old, and authorised by hundreds upon hundreds of the most enlightened men'. This can only be done by 'laying bare the roots of the error, digging it out and then ploughing over the soil whence it sprang'. What is this serious error, and how does the uprooting of it affect the readers of Mind?

The argument which is discussed in this book is called by the Rabbis

[1] On Kozlow, see his obituary in vol. lviii. of *Woprosy Filosofii*, pp. 183-206, and § 69 in the 8th ed. of Ueberweg-Heinz's *Grundriss der Geschichte der Philosophie*. Berlin, 1897.

'light and heavy,' and resembles the argument *a multo fortiori* or *a minore ad majus*, which (says Coke upon Littleton) is an argument frequent in our author and our books. In collections of legal maxims it appears in the form *omne majus continet quod est minus*. We cannot however quite identify the two arguments, and Dr. Schwarz has probably done right in using the Rabbinic term throughout. A typical example of the reasoning of the Rabbis is the following: 'Animals that are defective are fit for food, but unfit for sacrifice. Animals of the sort called *Trefah* are unfit for food. Clearly then *Trefah* animals are also unfit for sacrifice.' This really involves a principle that whatever is fit for sacrifice is fit for food; and, as the Rabbis say, is refuted by 'fat and blood,' both of which are fit for sacrifice, but not fit for food. Apparently, however, the Rabbis think less of principles involved than of things being heavy and light, in the sense of the strictness or laxity with which the Law regards them. They think therefore the argument can be refuted either by adding weight in the first proposition (*e.g.*, showing that the defective animal was in some respects more strictly treated than the *Trefah*), or reducing it in the second (*i.e.*, showing, as above, that sacrifice was in some ways more laxly treated than food). The refutation in any case consists in annulling the proportion which appears to exist.

The error which this book is to refute is the supposition that the essence of the argument lies in a proportion between two things. In the author's opinion the 'light and heavy' is a syllogism in which the general in extent is inferred from the particular. His explanation of the Rabbinic reasoning, in stating the argument, refuting it, and amplifying it, is so lucid that it is probably perilous to disagree with him about his main contention: yet it seems surprising. Even in the case quoted the inference is from defective animals to *Trefah*, neither of which can well be called general in extent if the other is particular. And indeed, though considerable space is devoted to the matter towards the end of the volume it seems doubtful whether the writer has convinced himself. Hillel argued 'The daily sacrifice, which is not sanctioned by a penalty, supersedes the Sabbath; still more must the Passover sacrifice, which is sanctioned by a severe penalty, supersede the Sabbath'. The mathematical formula which the author gives for this proposition is as follows: If *b* is a specimen of A, and A the species of B, then *b* is a specimen of the genus B. I assert then that if A have the specific characteristic *a*, it is B. With neither of these formulæ can any fault be found; the difficulty is to assign the values: and it is at least inelegant that different values are given the letters in the two formulæ, though they are printed contiguously. In the first A means all that is superseded by the daily sacrifice, B all that is superseded by the Passover sacrifice; *b* means the Sabbath. In the second A means the daily sacrifice, and *a* the characteristic of not having a sanction, whereas B (the Passover sacrifice) has a sanction. Working out an equation of this kind is as hard as playing croquet in Wonderland.

What however has caused this book to be sent for review to MIND is the endeavour which the author makes to show that the Rabbinic argument is an improvement on the Aristotelian syllogism. The writer is familiar with Mill's criticism on the latter, and he thinks the Rabbis invented an instrument which got over those objections. 'To Jewish thought every argument is a "light and heavy,"' and this was because owing to the rapid working of their brains the Aristotelian syllogism was too slow for them. 'If Hillel's argument were put into Aristotelian syllogism, it would run thus—"All laws that are superseded by the daily sacrifice are also superseded by the Passover sacrifice: the law of the

Sabbath is superseded by the daily sacrifice: therefore it is superseded by the Passover sacrifice". Hillel's syllogism omits the major premiss, and gives a reason for it instead.'

If Hillel's syllogism does so, it may be better than Aristotle's in that it is equivalent to two syllogisms, but in no other way. It certainly involves certain principles: *viz.*, that a sacrifice must supersede the Sabbath on the ground of superior holiness, and that a sacrifice sanctioned by a penalty must be more holy than one not so sanctioned. The major premiss would however be 'all sacrifices that reach a standard of holiness x supersede the Sabbath'. One might find as much fault with Hillel's figure for not giving the reason for these two principles as with Aristotle's for not giving the ground for the major premiss. Clearly the figures compared by Dr. Schwarz belong to different classes, and do not admit of comparison.

I regret that the nature of this journal prevents my calling attention in detail to the very valuable matter which this book contains, and to the care with which the writer has followed the discussions of the Rabbis. His investigations of the terminology of different periods will give great help to those who would introduce chronological order into the chaos of Rabbinic literature. And the reverence with which he speaks of eminent men of his own persuasion will excite sympathy outside his community.

Grundzüge der Psychologie. Von HERMANN EBBINGHAUS. Zweiterhalbband. Liepzig: Veit & Co., 1902.

In this second half of the first volume, Prof. Ebbinghaus completes his account of the Sensations and their specific peculiarities by dealing with the sensations from the skin and those of movement and position and of the lower senses, including under this last heading, smell, taste and the organic sensations; and among the last again he includes pain sensations, other than those from the skin, sensations of hunger and thirst and of their satisfaction, of discomfort, of disgust, of fatigue and its contrary, of strength, etc. Then follows an account of the general properties of sensation, or, more properly, of perception, and here Ebbinghaus uses 'Empfindung' and 'Anschauung' as alternative terms. Space-perception in general is followed by the space-perception of the skin, of the single and of the double eye. Then come perception of time, of movement and change, of similarity and difference, of unity and multiplicity, and an excellent discussion of the general relations between stimulus and sensation. This third book on the simplest psychical constituents is completed by a chapter on 'Vorstellungen' (ideas in the usual English sense of the word) and one on feelings. The fourth book, 'The Most General Laws of the Mental Life,' deals in four chapters: (1) with the co-existence of mental states—in this section the problems of attention are discussed; (2) with their succession and the laws of association and memory; (3) with practice, use, dispositions and fatigue; (4) with the relations of psychical states to movements of the parts of the body. As the book can be more advantageously discussed when completed by the appearance of two more half-volumes, it need only be said that this second half-volume fully maintains the very high standard of the first. The treatment is for the most part very thorough, the discussions are clearly and impartially presented. The book has the great merit of taking full account of all recent experimental work in psychology and of allowing due weight to physiological considerations, while remaining essentially a work on general psychology in which historical treat-

ment is not neglected. It should thus go far towards healing the gap that unfortunately has arisen between the older and the newer methods of treatment. It bids fair to rank as the best general text-book for all classes of students, beginners not excepted. For, as Prof. Ebbinghaus truly says, "even on first approaching psychology one can arrive at the right way of regarding it only by making a study of considerable range. For it is of the first importance, that from the outset one should be filled with a lively sense of the astonishing richness and complexity of the life of the mind."

W. McD.

Friedrich Ueberwegs Grundriss der Geschichte der Philosophie des neunzehnten Jahrhunderts. Neunte Auflage. Herausgegeben von Dr. M. Heinze. Berlin: Mittler und Sohn, 1902. Pp. viii., 625.

This is the fourth and last part of Ueberweg's famous work, brought up to date and published separately. Since the last edition which appeared in 1897 there have been various new developments which are duly recorded, the additional matter amounting to about 100 pages. A noteworthy feature of the work is the summaries of the progress of thought in the various countries by native experts. The English section by Dr. Dawes Hicks is carefully and fully done upon the whole. The work altogether is invaluable for reference.

Ad Spinozae Opera Posthuma. Scripsit Dr. J. H. Leopold. Hagae Comitis: apud Martinum Nijhoff, MCMII.

Dr. Leopold begins by investigating Spinoza's Latinity. He shows that Spinoza's Latin betrays an intimate knowledge of the language. There are quotations from Cicero, Virgil, Horace and Ovid, and constant echoes of Terence, whose influence (as Dr. Leopold thinks) reveals itself in some of the Emotions and Typical Characters as portrayed in the third and fourth parts of the Ethics. On the whole, Spinoza's style may be said to attain the high level of scholarship which distinguishes the educated men of his time (pp. 1-37). Next (pp. 38-64), Dr. Leopold shows that the *Editio Princeps* of the *Opera Posthuma* is not always to be trusted, that the text must often be reconstituted by conjectural emendation, and that for this purpose the Dutch Version is of unique value. This *Versio Belgica* (*cf. Van Vloten and Land*, vol. i., p. vii.) appeared in the same year as the *Editio Princeps*, and seems to have been translated direct from Spinoza's manuscript. Dr. Leopold has, I think, proved beyond question that this Dutch Version, though far from infallible, deserves to be most carefully collated with the *Editio Princeps*. Lastly, the Appendix (pp. 65-92) emends various passages in the *Tractatus de Intellectus Emendatione*, the *Ethics*, the *Tractatus Politicus* and the *Letters*. [On p. 87, l. 14 read "Ep. XLII." for the misprint "*ibid.*"].

Students of Spinoza will be grateful for this minute, careful, and scholarly pamphlet, which throws light on many obscurities of detail. But its chief value is for the future editor of Spinoza. Let us hope that Dr. Leopold himself will one day give us a text reconstituted on the principles which he has so ably advocated.

H. H. Joachim.

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F. Ueberweg, *Grundriss der Geschichte der Philosophie.* Vierter Theil. Das neunzehnte Jahrhundert. Neunte Auflage. Berlin, Mittler und Sohn, 1902, pp. viii., 625.

J. W. Riley, *The Founder of Mormonism*, New York, Dodd, Mead & Co., 1902, pp. xix., 446.

K. Geissler, *Die Gründe und das Wesen des Unendlichen*, Leipzig, Teubner, 1902, pp. viii., 417.

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O. Liebmann, *Gedanken und Thatsachen*, Band 2, Heft 3, Strassburg, K. J. Trübner, 1902.

E. Albee, *A History of English Utilitarianism*, London, Sonnenschein, 1902, pp. xvi., 427.

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W. James, *The Varieties of Religious Experience*, London, Longmans, 1902, pp. xii., 534.

VII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xi., No. 2. **J. Dewey.** 'The Evolutionary Method as Applied to Morality.—I. Its Scientific Necessity.' [(1) The object of science is primarily to give intellectual control (ability to interpret phenomena), and, secondarily, practical control (ability to secure desirable experiences). (2) In physical science this end is accomplished by experiment, which takes an unanalysed total fact that in its totality must simply be accepted at its face value, and shows the exact and exclusive conditions of its origin. It takes the fact from its opaque isolation and gives it meaning by presenting it as a distinct and yet related part of a larger historical continuum. (3) The discovery of the process becomes an instrument for the interpretation of other facts, which are explicable by reference to the process operating under somewhat different conditions. (4) The significance of conscious or spiritual values cannot be made out by direct inspection, or by direct physical dissection and recomposition. They are, therefore, outside the scope of science, except so far as amenable to historical method. (5) History gives us these facts in process of becoming or generation: the simpler, earlier terms are the counterpart of isolation in experiment, the successive later terms represent synthetic recombination under increasingly complex conditions. (6) A complete historical account of an ethical idea or practice (*a*) enables us to interpret its cruder and maturer forms, and (*b*) shows us the operations and conditions that make for morality, thus furnishing intellectual tools for further ethical work. (7) By analogy the successful execution of this mode of approach would yield us practical control.] **W. M. Urban.** 'The Relation of the Individual to the Social Value Series.'—I. [There are two conceptions of value in the history of philosophy. (1) The ethical consciousness, having determined its value, identifies the real with these (Plato's ethical idealism). "The principle of equivalence of values in the subjective consciousness can be seen working itself out in the objective world order in an eternal principle of justice," and "the principle of infinite increase of value . . . manifests itself equally in the objective social order". This view "ignores the mutations of value due to causal and economic laws". (2) Values are thought to flow out of the metaphysical determination of the real (Spinoza). Value is part of the system of nature, and, therefore, cannot be conceived as permanent or absolute. So we are led to the view either that the postulates of the individual consciousness are, from the larger point of view of the natural system, illusory (Ehrenfels), or that "inner valuation occupies the unique position of getting its content out of reality, but at the same time of for ever negating the real in favour of new values which in turn determine reality itself" (Simmel). May there not be a third view: (3) that the irreversible individual series of the self and the reversible serial order of social valuation are "in some sense mutually indifferent"? It is shown, by consideration of the work of Guyau, Nietzsche, Sidgwick, that "this concept of the indifference of ethical values to nature . . . resolves itself into the hypothesis of a relative indifference of two aspects of the fundamental principle of rational suffi-

ciency". It is not probable that there is an ultimate dualism in reason; but as a methodological principle the hypothesis of relative independence may be fruitful.] **S. S. Colvin.** 'The Common-Sense View of Reality.' [The paper falls into four parts. (1) A sketch of the growth of the common-sense view of reality in the child and the race. "It is the determination of the external world from the practical standpoint, from the standpoint of interest, that may be defined as the common-sense view of reality." (2) Outline of the epistemological problem in the history of philosophy, from the earliest Oriental speculations to Kant. (3) The attacks of epistemology upon common-sense are found wanting, both in the form of empirical argument (based on the relativity of sense-perception, on certain phenomena derived from physical science, on the character and arrangement of the nervous system) and in that of *a priori* statement. Kant's epistemology breaks down "because he is obliged to pass from pure subjectivity to objectivity, and does this by the use of the causal law, a transcendental principle". (4) Construction. All knowledge is knowing things in relation. The relation is the causal relation, Leibniz' law of sufficient reason. From this point of view "the difficulties involved in the common-sense view of the world disappear to a great extent"; "reality is in proportion to its power to enter into relation, and real knowledge is knowledge of such relation".] **A. R. Hill.** 'Proceedings of the Second Annual Meeting of the Western Philosophical Association, held at Chicago, 31st December, 1901, 1st January, 1902.' Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Psychological Review. Vol. ix., No. 2. **J. Royce.** 'Recent Logical Inquiries and Their Psychological Bearings.' [This is the President's Address before the Chicago meeting of the American Psychological Association, January, 1902. The author calls attention to two classes of investigations: those "directly bearing upon the psychology of the thinking process, and upon the natural history of logical phenomena in general," and "studies in the comparative logic of the various sciences, and examinations of the first principles of certain special sciences". The literature of this second type will presently grow into a new science, a "comparative morphology of concepts". (1) The psychology of the intellect is one of the oldest parts of psychology; but modern psychology halts at the treatment of conception, judgment and reasoning. Logic, in the meantime, has sought a basis in psychology: witness the influence of Brentano's doctrine of the process of judgment. The result is, that the logic of the judgment is chaos. Two paths are open: to cleave to logic and reject psychology (Husserl), or to shape the psychological problems for experimental handling (Ribot, Marbe). But the first can hardly be consistently followed; and the second has proved to be a *cul-de-sac:* what Ribot and Marbe studied "was not, in most cases, any process by which a thought can come to be built up in our consciousness at all". Let us then turn to the "larger expressions of the intellect themselves". To language, with Erdmann or Wundt? No: the relation of language to the thinking process has been overemphasised. (2) We turn rather to the logic of science. In the mathematical field we find awaiting us the problem of our ordinal concepts, of our consciousness of ordered series of objects. "Psychological space theories must be brought into explicit relation with mathematical theories." In other fields, we find a view of thought as "a variable and progressive process that is concerned with the adjustment of conduct to experience": the work of Mach, Pearson, Hertz offers to psychology the definite problem of an analysis of the thinking process. Finally, we discover everywhere

in this new literature an unexampled prominence given to exactly defined classifications. But classification depends upon inhibitions, and upon becoming conscious of our inhibitions; it raises the problem of the yes-no conciousness in definite form. The problem of our inhibitory consciousness is, then, with that other problem of ordinal concepts, the task assigned to psychology by recent logical inquiry.] **L. Farrand.** 'Proceedings of the Tenth Annual Meeting of the American Psychological Association, University of Chicago, Ill., December 31, 1901, January 1, 1902.' **G. S. Fullerton.** 'The Insufficiency of Materialism.' [Democritus recognised the existence of sensation and reason, but failed to find for them a place in his scheme of existence. The 'secretionist' gives them a place in his system, but they cannot take that place without ceasing to be what they are. Even those who speak of mental process as 'function' or 'activity' of brain are in bad case: for either they identify such process with atomic motion, and talk nonsense; or they make it distinct from motion, and so offer a merely verbal explanation; or they go beyond mechanism, and suggest 'inside and outside,' 'double-faced entity,' or what not. Colours and sounds exist, by evidence of common sense and the accepted usages of speech; the mechanistic view has no room for them. If we knew more? Granted that we may, we still have to explain that the imperfectly known natural world can be pieced out, with a good deal of accuracy, by such things as sensations. In a word, we must admit "that something exists save matter and motion; and a doctrine that makes this admission has advanced beyond the standpoint of pure materialism". So the task awaits the metaphysician.] Discussion and Reports. **A. H. Lloyd.** 'Professor Fullerton on "The Doctrine of Space and Time".' [Fullerton's treatment wrenches this doctrine from its systematic setting, and also shows ignorance of current mathematical theory, more especially of the modern conception of infinity.] **G. V. N. Dearborn.** 'On the "Fatigue" of Nerve Centres.' [Criticism of Woodworth's contention that the nerve centres in cord and brain are "exceedingly resistant to fatigue". Woodworth (1) confuses 'fatigue' with 'exhaustion,' and (2) relies wholly on physiological arguments, to the exclusion of psychophysical.] **H. F. Osborn.** 'Rapid Memorising: "Winging a Part" as a Lost Faculty.' [Letter of H. Edwards, regarding 'cramming' for the stage.] **J. M. Baldwin.** 'A Correction' [of a quotation from Small]. Psychological Literature. New Books. Notes.

American Journal of Psychology. Vol xii., No. 4. **G. M. Whipple.** 'An Analytic Study of the Memory Image and the Process of Judgment in the Discrimination of Clangs and Tones.' [First part of what promises to be a very valuable study. (1) Introduction: relation of the problem to Bentley's work on the visual memory image; criticism of Wolfe, Kennedy, Angell and Harwood. (2) Experiments: repetition of one of Wolfe's series of 1886, with the different purpose of tracing introspectively the course and nature of the tonal memory image and of analysing the process of judgment. (*a*) The tonometer clang arouses a wide-spread reaction: adjustment of ear, affective tone, vivid and detailed associations, organic sets. These supplements individualise the auditory image; they vary with the type of the observer. (*b*) At the cessation of stimulus there is no image. This swells out, clearly, after a pause: it has the timbre and localisation of the instrument, and usually lacks the associates just mentioned. (*c*) Left by itself, the image wanes. The observer seeks to reinforce it, by visual memory, humming, muscular adjustments characteristic of active attention, emphasis on respiration, etc. But attention must wane, and with attention the image. It

suffers most in intensity, less in clearness, least in quality. There are individual differences. (*d*) As a rule, the image is of little aid to discrimination after 30 sec., and may be altogether gone at 60 sec. The supplementary features have not necessarily disappeared, and may now come to the focus of attention. (*e*) When the stimulus of comparison sounds, it is immediately known to be 'equal,' 'high' or 'low,' whether there be an image in consciousness or not. (*f*) If the image is present, and the new stimulus identical with the old, the experience is wholly auditory. Even if the image have disappeared, the experience may 'feel' largely auditory. (*g*) If the new stimulus is different, the experience is less auditory; the attention is taken by the complex of strain sensations, with remoter visual and organic elements, that stands for 'high' and 'low' in the case of the given observer. (*h*) Sometimes there is a 'feeling of difference,' which is not specifically 'up' or 'down'. (*i*) If the new stimulus is neither familiar nor definitely different, the observer has recourse to auditory comparison: judgment is uncertain and often wrong. (*j*) Pleasantness goes with subjective certainty of judgment, not with any objective category. (*k*) The verbal formulation comes later than the decision. (*l*) Immediate judgments are correct and certain. (3) Further experiments: effect of practice on methods of judgment; comparison of bottle tones with tonometer clangs; introspection for tones with long intervals; experiments with distraction.] **M. F. Libbey.** 'Influence of the Idea of Æsthetic Proportion on the Ethics of Shaftesbury.' [Proportion, symmetry, and related æsthetic concepts are, in Shaftesbury's view, applicable to moral phenomena. These concepts, indeed, are native to the structure of the mind, and constitute our moral sense. Virtue consists in preserving a due proportion in the affections; it produces harmony and happiness. The identification of selfish and social interests may occur on any of the planes of culture between animal and spiritual life. The highest good is harmony on the highest plane of culture, consists in pure enjoyment of the beauty of all nature, and demands stoical perfection. The highest beauty is at once beautiful and sublime. Evil may be seen to be imaginary by the retreat of consciousness to the place of an æsthetic bystander. Enthusiasm is genius or fanaticism, according to its proportions. 'Natural' means symmetrical to egoism and altruism, on whatever level of culture; common sense is nature on a middle level. Literature demands self-knowledge through observation and sympathy. The beauty of art depends on a harmonious equilibrium of contradictory moral elements. The striking defect in Shaftesbury is lack of recognition of evolutionary activities (tragic earnestness, fanaticism, self-sacrifice) which mar harmony on one level, to lead to it on a higher; he understood adequate but not provisional forms.] **C. R. Squire.** 'A Genetic Study of Rhythm.' [An experimental study of the rhythms of speech. The author concludes that rhythm is perceptual in its nature. Affective elements may be (and generally are) present, but cannot be considered its essential constituents. Qualitative variations, unlike intensive and temporal, are not constant in direction. The seeming regularity with which the accented tone in a motor rhythm is raised in pitch has a purely physical basis. In an auditory rhythm either the high or the low tone may be accented. Quality, therefore, cannot be considered as an independent variant in rhythm, but only as a substitute for (or intensification of) the intensive factor. The various rhythmical forms are not equally simple psychologically. They may be arranged in an order of increasing difficulty for the producing or perceiving subject, as follows: (1) a regular succession of equal intervals separated by equal pauses; (2) the same, with the introduction of an irregular accent

(a stage characteristic of children's verse); (3) the spondee, if we may use metrical terminology; (4) the trochee; (5) the iambus; (6) the dactyl; (7) the anapaest; and (8), most difficult, the amphibrach. These different forms may arise through temporal, intensive and qualitative changes. A motor rhythm can never be said to be in stable equilibrium. A simple rhythm may gradually become more complex, and a complex rhythm may break down and revert to a simpler type. Then inversions in the typical temporal, intensive and qualitative arrangements occur.] **E. C. Sanford.** 'Improvements in the Vernier Chronoscope.' **E. B. Titchener.** 'Fluctuation of the Attention to Musical Tones.' [Physically pure tones, of minimal intensity, do not fluctuate.] Psychological Literature. Book Notes.

International Journal of Ethics. Vol. xii., No. 3. **A. W. Benn.** 'The Ethical Value of Hellenism.' [A very able defence of the position that the Greeks were as great in the theory and practice of morals as in art and science.] **G. W. Knox.** 'Religion and Ethics.' [Ethics is rational only on the assumption of a transphenomenal reality. Religion is the intuitive recognition of this reality. Religion is only worthy so far as it is ethical. It becomes corrupted by identification with other feelings and passions.] **F. M. Stawell.** 'The Conception of Nature in the Poems of Meredith.' [He regards nature as akin to what is best in man, so that communion with nature gives us moral strength. To effect this communion man needs faith.] **J. A. Ryan.** 'The Ethics of Speculation.' [Speculative operations in stock and produce are of doubtful economic utility, cause great social evils and are vitiated by many dishonest practices.] **J. H. Harley.** 'The Place of Ethics in the Table of the Sciences.' [A criticism of De Greef's Table of the Sciences. Ethics is not one of the social sciences; every science has an ethical side. The cosmic process is not entirely unethical; it is ethical after its own kind. The unifying principle of the universe is something wider than ethics.] **W. M. Salter.** 'America's Duty in the Philippines.' [A plea for granting self-government to the Filipinos.] Book Reviews.

Revue Philosophique. May, 1902. **Fr. Paulhan.** 'La Simulation dans le Caractère.'—II. [An interesting study of "simulated sensibility" and the part it plays in intercourse, auto-suggestion and religion.] **André Lalande.** 'Sur l'Apparence Objective de l'Espace Visuel.' [Vision gives us our idea of "external reality," for it is that sense *par excellence* affords perceptions which we share with others.] **Dr. Janklovitch.** 'Nature et Société.' [The natural world is governed by the law of causality; the human by ends and values. This domain of *immanent teleology* is the field of sociology.] **E. d'Eichthal.** 'La Psychologie Economique' (Revue Critique). Analyses et comptes rendus. Revue des Périodiques. June, 1902. **Ch. Dunan.** 'La perception des corps' (II.). [All localisation of perceptions implies a *transcendental consciousness* of universal space, for it is only by reference to the universe as a whole that we determine the place occupied by any particular object. This intuition of the absolute is non-temporal, hence never appears in empirical consciousness but it imposes upon the latter the *a priori* forms which have been called 'local signs'.] **Th. Ribot.** 'L'Imagination créatrice affective.' [There exists a form of creative imagination which works entirely with *affective states*. It is seen in its most complete form in musical creation.] **De Wulf.** 'La Notion de philosophie scolastique.' [An historical study.] Analyses et comptes rendus. Revue des périodiques étrangers (*Philosophical Review*).

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xxviii., Heft 1. **W. Frankl.** 'Zur "generellen Urteilstendenz" bei

Gewichtsversuchen.' [Report of a series of practice-experiments with lifted weights, made in the Graz laboratory, which show clearly the law of 'general tendency of judgment' laid down by Martin and Müller. The law declares "that in comparisons of a constant normal weight with a varying weight of comparison, the chances for a correct judgment are greater, other things equal, when the weight of comparison is the second to be lifted".] **H. Frey.** 'Experimentelle Studien über die Schalleitung im Schädel.' [A careful study of tonal conduction in bone tissue, beginning with preliminary experiments on the femur, fresh and macerated. We give the results for the skull. (1) The direction followed by sound waves within the bony portion of the head depends essentially upon the distribution of the bone substance as regards density. (2) When, therefore, sound waves proceed from the auditory organ of the one side, they spread out within the skull at large, but are conducted predominantly towards the symmetrical points of the other half of the skull, *i.e.*, to the opposite pyramid. (3) Sound can, then, be transmitted from ear to ear by means of bone conduction. The transmission is accomplished by the bony skull itself, without essential aid from the chain of ossicles. (4) These results are obtained from the macerated skull, and from the fresh skull with the soft parts unremoved. They may therefore be predicated also of the living head. It is probable that bone conduction sufficiently explains the phenomena of diotic beats, which have been much in discussion.] **G. M. Stratton.** 'Der linear-perspectivische Factor in der Erscheinung des Himmelsgewölbes.' [Maintains, against von Zehender, that the curvature of the clouded sky is a phenomenon of linear perspective, akin to the concavity of the earth's surface when seen from a great height.] Literaturbericht.

Philosophische Studien. Bd. xviii., Heft 1. **P. Zoneff** und **E. Meumann.** 'Ueber Begleiterscheinungen psychischer Vorgänge in Athem und Puls.'—I. [This is the first of a series of investigations into the physical concomitants of "psychische Erregungszustände," *i.e.*, feeling, emotion, mood and attention. The authors put forward the two claims of absolute impartiality as regards theory and of improved technique. The main point of the inquiry is the correlation of breathing (abdominal and thoracic) with mental state and process; but curves of pulse and heart-beat were also taken. (1) The paper opens with an account of apparatus, method of experimenting and calculating results, etc., and with a brief survey of previous work. Then follow (2) experiments on the expression of attention in breathing and pulse. The attention was directed upon visual, auditory and tactual stimuli, and upon 'ideas' (arithmetical problems, etc.). Result: "a voluntary concentration of the attention effects a retardation of pulse and an inhibition of breathing, more marked in thoracic than in abdominal breathing". The inhibition may be shown in arrest of breathing, or in a flattening of the curve, often accompanied by quickened respiration. Fluctuations of attention are accompanied by exactly corresponding fluctuations in the changes of pulse and breathing. (3) Experiments upon pleasantness and unpleasantness: visual, auditory and tactual stimuli, and reproduced ideas. "All pleasant feelings effect a flattening and quickening of breathing together with a retardation of pulse; all unpleasant feelings are attended by a deepening and slowing of breathing and an acceleration of pulse." (4) Experiments on the relation of attention to the feelings. "All the effects of feeling upon pulse and breathing are abrogated by a real distraction of the attention by means of another stimulus." "A simple directing of the attention upon the feeling strengthens this feeling; but if the feeling is made the object of a psychological analysis and in this

sense becomes the object of attention, it is very considerably weakened or even destroyed." This distinction, as Meumann remarks, is systematically important. "The unpleasantness caused by mental fatigue exerts the same effects upon breathing and pulse as does the simply sensuous feeling of unpleasantness," and recovery has the same manifestations as sense pleasure.] **A. Kirschmann.** 'Zum Problem der Grundlagen der Tiefenwahrnehmung.' [Reply to R. Müller. The author maintains that in monocular vision parallactic relations obtain, based upon the distance between the centres of the sighting lines and lines of regard, which play an essential part in the monocular perception of depth. The effect is greatest in the lateral regions of the lower half of the field of vision, and for objects within easy reach of the observer. Müller's experimental tests do not meet these conditions. Moreover (1) there is no reason why "the data for localisation in the third dimension should be directly accessible to attention and to quantitative estimation": witness the many 'automatic' activities of daily life. (2) The author's indirect proofs (slit-pupil of cat, artificial production of metallic lustre, etc.) must be met, if his theory is to be disproved. (3) The parallactic effect is not so small as to be negligible. As an argument from analogy, the author describes certain binocular experiments in which a hardly perceptible chromatic aberration (in a glass lens, not in the eye itself) gives rise to marked distance-effects.] **M. Brahn.** 'Experimentelle Beiträge zur Gefühlslehre.—1. Theil. Die Richtungen des Gefühls.' [The paper opens with a short sketch of the conditions under which Wundt set up his recent theory of the threefold direction of the course of feeling. The writer stresses the importance of the theory for pathology, and the verification obtained by Vogt in the state of 'eingeengtes Bewusstsein'. He then discusses 'psychological methods' of investigation: a large number of stimuli is laid before the observer, and the affective reaction noted; then stimuli which gave the same reaction are directly compared (method of comparison), or stimuli which gave opposed reactions are presented together (method of compensation). Next comes a section on the diagnostic value of expressive movements. They have a direct psychological value as affective stimuli, all the more since their affective tone may be regarded as constant. The James-Lange theory has overshot the mark, though it has done good service in calling the attention of psychologists to organic changes. The experimental part of the article is concerned with the vasomotor (pulse) expression of the directions of feeling. After a criticism of apparatus and of previous work, the author presents his own experiments. Their results are as follows: (1) Subliminal stimuli may produce a change (a slight lengthening) of the pulse. (2) Under the influence of the most diverse forms of stimulation, three and only three kinds of paired pulse changes can be demonstrated. These changes correspond exactly to the three forms of feeling. (3) Pleasantness corresponds to lengthening and heightening, unpleasantness to shortening and lowering of the pulse curve; excitement corresponds to heightening, tranquillisation to lowering; tension corresponds to shortening, relaxation to lengthening (the latter are accompanied further by opposite dicrotic changes). (4) First in the order of time appear the effects of excitement-tranquillisation, then those of pleasantness-unpleasantness, last those of tension-relaxation. (5) In many cases the strength of the pulse changes corresponds to the intensity of the attendant feeling. (6) The phenomena of the feeling of tension evince a periodic intensive oscillation, corresponding to the oscillations of attention.]

VIII.—NOTES.

MIND ASSOCIATION.

THE Annual General Meeting of the Association will be held in Trinity College, Cambridge, on Saturday, 8th November, at 4 P.M.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. HENRY STURT, 5 Park Terrace, Oxford; or with the Hon. Treasurer, Mr. F. C. S. SCHILLER, Corpus Christi College, Oxford, to whom subscriptions should be paid.

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